

The MILLING WORLD

and CHRONICLE OF THE GRAIN and FLOUR TRADE.

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CUSTOM MILLS OF EUROPE.

CUSTOM milling was, until a very recent time, considered a remunerative business on the European continent. The times, however, when every farmer carried his grain direct to the mill and received again his own produce transformed into flour, are gone; many a thriving prosperous mill has had to close its doors, and its owner has found employment somewhere else, since the building of railroads facilitated transportation of the grain to central markets. The producers found it more to their advantage to sell good grain directly and without any further trouble on their part, than to keep a stock of flour of doubtful quality on hand for sale, the final disposal of which did not always pay a fair margin for the additional trouble. Many of the wind mills of Holland and Germany have passed out of existence, because their surroundings did not furnish the necessary grain to keep them running.

Competition was another factor in the depression of the custom milling, especially in Germany. Every small miller tried to underbid his neighbor, and the consequence was that the charges for grinding did not always pay for the working of the mill. This again opened the door for a large variety of fraudulent manipulations to make up for the losses; one miller would retain as much flour as his customers allowed him to do without protesting; another returned a poorer grade of flour than he obtained from the grain received; or else a quantity of the fine flour was taken away and replaced by a corresponding quantity of a poorer quality obtained from other sources. At the present time we find it a common thing in many places where custom milling is in practice, for the producer to be satisfied to receive 70 per cent. of his weight of delivered grain, as flour in return.

All these drawbacks, in connection with the opening up of great milling establishments in central locations, have finally reduced the custom milling of the European continent to a minimum; as far as flour production for the market is concerned they are utterly unable to compete with the products of milling centers either in price or in quality.

German papers discuss the prospects extensively, and advocate a radical change in the old-fashioned system of the custom mills. Compared with the beautiful flour produced by modern appliances in the larger establishments, the product of the custom mills is only of a medium quality, and the sooner the milling machinery of the past century is replaced by the latest improved systems, the sooner the custom miller will be able to hold his own again all over the European continent.

Unfortunately there are a number of serious drawbacks to this advance. First of all, any mill improvement can be effected only with an expenditure of money; and the majority of the small European millers are of a conservative type, men who have not yet accustomed themselves to the thought that milling which was good enough for their fathers and forefathers is no longer good enough for the present generation, and who will rather sit down and deplore the past "good old times," than try to adapt themselves to the changing surroundings. Such men will not be convinced that the

old-fashioned dark-looking flour is rejected when placed side by side with the most delicate white product of the modern mill. Then we have men who reject any new idea, on general principles, as "modern nonsense," and as such far below their consideration; they will place the cause of the downfall of their business anywhere but just where it really belongs, at the door of their own stupidity. Again, we have men who would like to make all the necessary improvements, but who are unable to accomplish anything for lack of means, and an impossibility to raise the money for the purpose. Altogether the custom milling of the European continent seems to be destined to share the fate of many other small industries, and succumb to a centralization of their business into large conveniently located establishments, supplied with all modern improvements, and ready access to all lines of transportation.

WHEAT PRODUCTION AND EXPORTS.

Wheat production, as developed in the Northwest and on the Pacific coast, is inconsistent with the practice of scientific agriculture, incompatible with rotation or any practice of progressive husbandry, and will be only a temporary resource of pioneer necessity, says Mr. J. R. Dodge, in a report to the Department of Agriculture. It is destructive of all ideas of improvement or progress, social and moral. It is not necessary to say that it destroys fertility, though it tends in that direction. It does rapidly reduce the yield, and renders crops uncertain, or failures in unpropitious seasons, by neglect of cultivation, or superficial scratching called by that name, and the consequent growth of weeds which take possession of the fields and choke the grain, so that the wheat and tares are unable to grow together till the harvest, because the wheat is obliged to succumb before the harvest. The old story told by superficial agricultural writers, and gladly re-echoed by foreign farmers, that the soil has been exhausted by wheat, is not true. The Genesee valley can produce nearly, if not quite, as large wheat crops as ever, and Nebraska and Iowa soil cannot be "exhausted" by a few successive wheat crops. It is the man on the farm, his defective plan, which is want of system, and not the soil, which is at fault; and an abnormal export of wheat is the *ignis fatuus* that lures him on.

The exports of agricultural products have been about four-fifths of the total exports of the United States. In the early history of the foreign trade the proportion was largest, above four-fifths, but the quantity was very small. In 1820 it had attained a volume of only \$41,657,673. The largest figure hitherto reached was in 1881, \$730,394,943. In 1870 it had only half that volume. Immigration and machinery account largely for this marvelous increase.

The proportion is gradually declining, while the actual quantity is increasing. During the last ten years the percentage of agricultural exports averages only 78 per cent. This is because the exports of manufactured products have decreased. In 1820 the quantity was insignificant, only \$10,055,967, or 9.4 per cent. In 1882 it was \$181,019,913, or 14.69 per cent. of all exports. This is a change in the direction of en-

during prosperity. A nation that exports permanently the raw products of agriculture will not attain the highest prosperity. It is not desirable to bend all the agricultural energy of a vast district to the production of wheat, the market for which shall be contingent upon five thousand miles of transportation, the meteorology, and the labor of foreign countries. This would simply permit us to export a wheat surplus on condition of underbidding the world, including the ryots of India, in price, mainly to enable foreign manufacturers to undersell our own in the textile markets of the world, and thus reduce the home demand for our cereals, which is nine times as large as the foreign. We should manufacture at home, eat our wheat and corn at home, and sell any surplus in the form of meat, butter and cheese, thus giving employment to surplus labor, making a market for raw products, and reducing the cost of transportation to distant markets.

THE GROWTH OF STARCH.

Although chemistry has taught us that starch is formed by a combination of the carbonic acid of the atmosphere with water, under the influence of sunlight and some other unknown forces, the exact mode of the formation or growth of the starch granule itself has never been very satisfactorily explained; although many have studied the subject in various countries, the number of views put forward by these different observers is almost as large as the number of workers. It is well known that a granule of starch highly magnified has the appearance of being covered with concentric markings, one a little smaller than the other, and the edges of which can be distinguished under the microscope. At the present time when the discussions on the nutritive value of starch and gluten takes up so much time all through the country, and when the views advanced upon the subject are as contradictory to each other as possible, every consideration of the subject from the beginning of the starch granule, must be of interest.

We always look upon iodine, a substance prepared from the ashes of certain seaweeds, as the most reliable test for starch, because it produces a very distinct blue color in any, even the weakest, starch solution, raw or boiled. But the granule is composed of two different substances, granulose and cellulose; and only the former is colored blue on mixture with iodine, while the latter remains natural. In fact the cellulose is the frame work of the granule, a complete netting so to speak, in which the granulose finds a resting place; even after its total removal by the proper re-agents, the cellulose network remains entire and shows the concentric markings, first mentioned, just as well as the whole starch granule did before. In the center of these concentric rings we find a dark spot, called the hilum. This hilum was formerly looked upon as the point where the granules attached themselves to the walls of the cells which surrounded them. Recent investigations have demonstrated the error of this theory. We now look upon it as the point where growth began. The markings were, in the same erroneous manner, looked upon as the successive folds of a membrane which enveloped the granule. Although the whole structure is as yet a matter of dispute, all evidence so

far obtained is against the old theory. Prof. Naegeli, a well known German observer, considers that the granules grow by a process of internal growth, by which the new material is added from within, the outer portions being the oldest. This growth proceeds in alternately firm and watery layers, which, by their difference in density, cause the markings peculiar to starch granules. As these increase in size the outer portion is stretched or distended by the accumulation of starchy matter within. This theory is based upon the evidence offered by the distension and destruction of the granules by heat and chemicals. In warm water the successive layers can be seen under the microscope to separate slightly, and this certainly offers the best proof that the markings are not produced by the folds of a membrane. In boiling water, the granules swell very much, some of them burst and discharge the granulose material from their interior, leaving the cellulose behind. Sulphuric acid acts in a similar manner, but more rapidly, by a distension of the whole granule into a large, smooth sac.

Prof. Strassburger, another German observer, differs from the above in his views about the growth of the starch granule. He regards them as composed of concentric layers, growing successively on the outside. His explanation of the original growth is ingenious and founded upon his own observations. The original growth of every cell starts from a jelly-like mass called protoplasm, and whenever a membrane or a layer is to be formed, part of the protoplasmic mass arranges itself accordingly in a compressed abundance, from which finally the membrane, or whatever is needed, forms. This original protoplasm is an albuminous substance, that is a soluble albuminoid material; in the progress of growth it in turn is transformed into insoluble albuminoid, and this again into cellulose. In this way at least a part of the starch granule is formed from protoplasm, an albuminoid substance.

If this view proves correct, it will throw some light on the question of gluten and starch. If every starch granule is composed of albuminoids and starches, the question of gluten cells attached to the bran and the injurious effects of pure white flour upon the system is reduced to its proper level, and must be looked upon as sensational statements of one-sided specialists, whose minds are unable to grasp a question from all sides without partiality. The microscope is one of those useful instruments the appreciation of which increases with its use. The time will come when every milling establishment will have one, and when it will be considered indispensable in the solution of the many knotty questions which often worry the mind of the miller. Things invisible and mysterious to the naked eye, become apparent and beautifully plain, when our natural sense is aided artificially by the microscope. Of course, like everything else, its proper use has to be learned, and investigations on flour cannot be made right away. To know how it is done is one thing, to do it is something entirely different; but there cannot be the slightest doubt that after a miller has once become accustomed to look at his various brands of flour with a microscope, he will never, if he can help it, dispense with this most useful instrument, and always look upon it as his most competent ally.

PATENT LAWS.

At the present time when the patent laws of the United States are so freely discussed, we have the spectacle of a majority of people opposing a measure proposed by a minority of legislators. It is not very long ago that our sister republic, Switzerland, presented the curiosity of directly opposite relations, where a law for the better protection of inventors was passed almost unanimously by the legislature, and was then defeated by a popular vote.

The causes of this unfortunate disaster, we are told, was that the same amendment was voted for or against upon the same ballots, with a highly offensive compulsory vaccination law, and the patent act thus incurred, innocently, some of the hostility that was felt toward the other statute. Another cause which contributed to the defeat of the patent amendment, was the general ignorance and indifference of the majority of the voters.

The fate of a country which offers insufficient protection to its inventors is graphically described by the United States Consul at Basle, Mr. Mason. Speaking about the Zurich exhibition, he tells us that a large part of the cunning machinery and improved merchandize exhibited there by the people of Switzerland, was the fruit of inventions made and patented in France, England, and the United States. They had copied, borrowed, and combined inventions right and left, and the result was surprising.

On the other hand, it was noticed that the progress evinced in the branches of manufacture which are peculiarly Swiss was comparatively meager. The real Swiss inventors, the men who made the most valuable steps in the improvement of the industries for which these thrifty people have long been famous, were conspicuous by the absence of their latest and best work. If they had their models at the exhibition they were afraid to show them. At the embroidery department, in the production of which goods the Cantons St. Galle and Appenzell have a practical monopoly, there was regret and apprehension, because the inventor of the most valuable improvements had carried his discovery to America, patented it at Washington, and was about to manufacture the new apparatus in the United States on a scale which might open an immediate and dangerous competition to the pet industry of his native canton. It would be bad, indeed, for St. Galle and Appenzell to lose the control of the rich trade of the United States in Hamburg edgings; but who could blame the ingenious inventor for carrying his invention to a country where it could be protected and developed into a fortune.

The constant agitation of the subject is at last developing an understanding of the matter among the people, and the next step will, unquestionably, be a thorough protection of the inventors and their privileges. The importance of such an achievement can be best appreciated by those who saw at the Zurich exhibition, how many valuable patents from the United States have become common property among Swiss manufacturers. The recognition of useful inventions as personal property, is one of the equities which belong to civilized governments, and Switzerland, which has been so advanced and progressive in many other respects, will not much longer withhold its tardy intelligence to that principle.

In Germany, the life of a patent is fifteen years, and reserves to its owners the exclusive privilege to manufacture the patented article, and to put it into the market. If the invention relates to a machine, or a tool of any description, the patent prohibits the personal use of the article by any one, without the patentees permission. If, however, a patent is applied for, and somebody else has filed an application for the same

invention, then the first comer will invariably obtain the patent. This point has, at various times, caused a large amount of discussion, because some inventor communicated his ideas, or discussed his plans with somebody else before applying for a patent, and found himself outwitted and outrun when he finally sent in his application.

Such an application to the patent office cost twenty marks, (about \$5) and is carefully tested as to its merits, by competent officials. If the invention has already been described publicly at the time of application, or is so well known that it can be used everywhere, then the inventor cannot obtain a patent. The same decision is made when the principal part of the invention has been taken from the descriptions, drawings, or models of somebody else, without permission of the owner. The patent costs an additional 30 marks as a fee for the first year. For the second year the patentee has to pay 50 marks, for the third, 100, for the fourth, 150, and so on, until the fifteenth year the fee which the patentee has to pay to the patent office, represents the sum of 700 marks.

Any improvement on the original invention can be patented, and the fee is only 50 marks altogether; no matter how many additions are made to the original patent, the annual payment for the principal covers all expenses outside of the cost of application and issue of patent, equal to 50 marks.

The tendency in Germany at present, is to increase the efficiency of the patent laws more and more, and enable the inventor to reap the largest possible reward for the work of his mind.

THE FIRE HAZARD OF FLOURING MILLS.

The hazard of flouring mills, says Mr. J. M. Chrissinger in the *Chronicle*, is a subject of great importance to underwriters, and one which presents probably more difficulties than any other class of manufactures. On account of the necessary machinery contained therein, flouring mills should be built in the most substantial manner possible, and all precautions should be taken to prevent settling or sagging. The foundations cannot be too substantial, and too much care cannot be taken in their general construction. All timbers and material should be of the very best seasoned wood, and of great strength. The interior arrangements should be such as to insure the greatest convenience, safety, and best results. The location of a mill is a matter of the greatest importance, for a flouring mill located in an unsuitable and unprofitable locality, no matter how well built or equipped, is entirely worthless from an insurance point of view. As to the motive power of flouring mills, there seems to be a diversity of opinion, and I shall only note a few points. If the mill has steam power, the boiler and engine room should be detached or protected thoroughly by fire proof walls, and all openings by iron doors, and the wood work overhead should be at least eight feet from the boilers. The floors in front of the furnace should be of earth, brick, or stone—no wood should be allowed. Boilers should be well bricked in, and thoroughly covered. I regard steam power, properly constructed, preferable to water power.

Machinery should be of the most approved pattern, and located so as to give the most favorable results. The product of the mill is of the greatest importance, for the milling business is so close that a mill turning out too small a percentage of first grade flour is a very poor investment. The old mills, run under the stone system, are especially dangerous, and should in every case be avoided. It has been fully demonstrated (and we have paid for the knowledge) that mills of this kind are short-lived. The owners reason thus: It will hardly pay them

to change their mill throughout, and make a roller mill of it, so they see that their insurance is placed in good companies, and up to the limit. After that they run the mill as best they can, and if she burns, all right. Of course they do not intend to set fire to their property, but under the circumstances they are not as careful as they should be, and are willing to take their chances. In fact, unless a mill is, strictly speaking, a roller mill, it is an extremely dangerous risk, as the days of old-fashioned and unimproved mills has passed.

The system of heating in flouring mills should always receive careful attention. Steam pipes, properly arranged and protected, are preferable to any other system. I do not think inspectors, as a rule need any information or advice on this subject.

Cleanliness is an all-important feature in the physical hazard of flouring mills. There is a chance of saving a clean mill in case of fire. But a dirty one is about as dangerous as a powder magazine. Dust rooms or catchers should be so constructed that no dust vents into the mill or on the roof. Oily rags or waste used about machinery should be carefully handled, and not allowed to lie around loose. The waste pails or buckets supply a much needed want in this direction. It is imperative that mills should be thoroughly and frequently swept and cleaned, and all hangers, bearings, gearings, and, in fact, all the machinery, kept clean and free from dust and cobwebs.

Many of our best mills are lighted by electricity, which is a move in the right direction. This system does away with poor oils and poorly constructed lamps. If oil is used it should be of the best quality, and lamps of the most improved kind, amply protected against dust. They should receive careful attention and be kept perfectly clean. Poor lamps and oils are very dangerous, and mill owners should spare neither pains nor expense in trying to avoid fire from this source. Tubular lanterns of the most approved patterns only should be allowed—open lights strictly prohibited. Globes on lanterns with a piece broken out, and a piece of paper stuck over the hole must not be tolerated, and mill owners who allow defective lanterns or lamps to be used are guilty of gross carelessness.

I would advise a complete system of fire protection, both as regards apparatus and employes. The latter should be instructed how to act in case of fire, and each man should have his post and duties to perform. They should be thoroughly drilled and made familiar with what is expected of them in case of emergency, so as to avoid confusion. As a simple and reliable protection, give me barrels and buckets of water properly distributed, and kept in good order; not as we sometimes find them—barrels empty, and wooden buckets, which fall to pieces at the slightest provocation. This protection comes within the reach of every one, and no matter how many other conveniences are at hand, the barrels and buckets are a necessity, and no risk should be written without them. Where it is practicable stand pipes, with hose attached, should be placed in mills, and should always be ready for use.

I would also recommend that perforated steam pipes be placed in flouring mills, as within a short time I have had my attention called to one flouring mill located at Waseca, Minn., and one paper mill located at Eau Claire, Wis., where steam saved both buildings, and the loss in both cases was nominal. It should be the duty of one man to see that all fire apparatus is in good working order, and extinguishers, stand pipes, and hose should be frequently and thoroughly tested, and that the cask or barrels are kept filled with water. The watchman should be a competent and trustworthy man. He should be thoroughly acquainted with the location and workings of all fire apparatus, and, if

possible, should be a man who would not lose his head in a case of emergency.

It is only a question of time when mills allowed to remain in a bad condition, as regards building, heating, lighting and cleanliness, will become food for flames, and then the insurance companies are at a loss to understand how such a fine establishment burned. The cause of the fire is classed as "unknown" and remains forever a mystery, when the true cause was perhaps dirt and gross carelessness on part of the owner.

THE GERMINATING POWER OF WHEAT.

So much has already been written about the vitality of wheat that the subject could well be considered as exhausted. Unfortunately many things have been written which were based upon insufficient evidence or a faulty understanding, such as mummy wheat, corn found in mounds, and many other similar unsubstantiated assertions, so that any well authenticated fact bearing upon the question of the germinating power of our well known cereals must be of interest to those who have to handle and store grains for longer or shorter periods. Experiments of this kind can be made with very little trouble by anyone whose interest is engaged in the matter.

It has been noted at different times that many of our grains will germinate even between or when covered by blocks of ice, and the question whether the resulting growth splits the ice to obtain the necessary space for its expansion, or whether the power of growth liberated an amount of heat sufficient to melt the ice around the embryo, has been thoroughly discussed and the latter view is now generally accepted as the true explanation.

Last winter a gentleman at Princeton, Mass., experimentally scattered grains of wheat, rye and barley between the cakes of ice, during the filling of his ice house. When the supply was reduced during the summer, he found at the end of August, all the grains germinated. First the root had pushed out laterally between two blocks of ice; the shoot or stem did the same for half an inch and then turned upwards at right angle, penetrating the solid ice vertically for a distance of two inches.

It did not make any difference in what position the seed lay, whether its germinating point was up, down or sideways, the growth was always in the true vertical direction through the solid ice. Unfortunately the growth was disturbed when the ice was taken out. It would be exceedingly interesting to know what size these growing grains would attain in a constant temperature of ice and a total absence of sunlight.

AMERICAN AND GERMAN FARMING

Ferdinand Voyele, United States consul general at Frankfort, Germany, has written to the department of state as follows: My attention has recently been directed to the subject indicated in the above heading by the perusal of a very interesting book, written in the German language, by Heinrich Semler, of San Francisco, and published by Hinstorff, in Wismar, Mecklenburg, on "The true meaning and real causes of the North American competition in agricultural products." The object of the author evidently is to show to the German agriculturist why the American farmer has been able to beat him in his own market, and, in connection with the elucidation of that subject, to advise the German in what respects he must change his methods and adopt those of the American in order to successfully compete with the latter. The author is a man of excellent judgment and great powers of observation. He has evidently lived in the United States by far the better part of his life. He has been a practical farmer in the New England

States for years, seems then to have settled in the great northwest, and is now (or rather was at the time of his writing, 1881) farming in California. His facts are carefully collected, and his conclusions generally unsailable. He is a thorough American in sentiment.

He speaks with pride and enthusiasm of the energy, intelligence, thrift, and frugality of the American farmer, but he comes to the conclusion that in spite of all these elements, which would vouchsafe success in almost every other pursuit, the condition of the American farmer is not an enviable one, such as ought to inspire the German farmer with fear of enduring successful competition. Indeed, the author finds that the business of farming is by no means so profitable a pursuit in the United States as the astounding general results attained have caused the people of Europe universally to assume. What with the price of labor artificially increased by a protective tariff, of which he derives no benefit, a higher rate of taxation, higher interest, a market constantly oversupplied, he considers the condition of the American farmer not nearly so favorable as that of his German colleague, who of late has become the special object of the paternal care of his government. The author, therefore predicts a gradual decline of the competing power of the American agriculturist, and I confess that he arrives at this conclusion by logical deduction from facts, which I find myself unable to controvert. His facts and figures are collected from official sources, and he tests them in the crucible of his own abundant experience. His data for Germany I have submitted to the judgment of intelligent German farmers and estate owners. They are not so complete as his American facts, but, so far as they go they are reliable.

It is possible, then, that with an excess of production in the United States over consumption, amounting in wheat alone to from 50,000,000 to 200,000,000 of bushels annually, arguing a national prosperity unexampled in the history of the world, the individual farmer may toil without hardly any profit over and above a fair compensation for his own manual labor, while in Germany, which can not possibly produce enough to feed its own teeming millions, the individual farmer prospers. I confess that I have been forced to this conclusion. In order to illustrate, and, so far as I may, to prove the correctness of this conclusion, I subjoin two tables, showing the cost of the production of an acre of wheat in the United States and Germany, respectively, as well as the average price obtained for such production in either country. The figures for the American table are taken from Mr. Semier's book, except that, in view of the large wheat crop of 1882, I have assumed thirteen and a half bushels (instead of thirteen bushels, Mr. Semier's estimate) to be a fair average crop. The figures for the German table have been carefully collected and submitted to the practical judgment of intelligent farmers in different parts of Germany. Nevertheless, I am well aware that flaws may be picked in both of them, but I am satisfied that they present as fair a view of the subject under discussion as the difficulties surrounding the same will permit.

IN THE UNITED STATES.

Plowing.....	\$1 50
Sowing, harrowing, etc.....	50
Seed (80 pounds).....	1 50
Reaping, binding, shocking, etc.....	4 75
Threshing (20 bushels).....	1 50
Sacks (9 to 10 cents).....	90
Hauling to Railroad.....	27
Interest on capital, acre \$50, at 8 per cent.....	4 00
Tax, \$50 at 2 per cent.....	1 00
Interest on stock, implements, machinery, etc.....	36
Repairs and small purchases.....	50
Insurance, fire, hail.....	16
Total.....	\$14 00
Average yield, 13½ bushels.....	
Average price, \$1.06 per bushel.....	
Average return per acre, \$14.31.....	

IN GERMANY.

Plowing, harrowing, and sowing.....	\$3 25
Seed (80 pounds).....	2 40
Reaping, binding, stacking, threshing.....	2 15
Rent (or interest and tax).....	3 85
Insurance (fire, hail).....	45
Repairs of buildings, implements, machinery, and new purchases.....	2 50
Care of stock, loss by use, etc.....	1 00
Supplies for hands, bedding, etc.....	1 00
Total.....	\$17 50
Average yield, 17½ bushels.....	
Average price, \$1.30 per bushel.....	
Average return per acre, \$22.75.....	

I have rated the cost of properly preparing and tilling an acre of wheat land in Germany rather high, yet I think my figures fairly correct, for while, on the one hand, the price of labor in Germany is less than one-half of that in the United States, yet, in order to produce the result stated, which is not above the average yield, the fields must be, and are so carefully prepared, and so many hands are employed in feeding and attending to the cattle, in loading, hauling, and spreading the manure, in weeding, hoeing, harrowing, garnering, etc., as to more than compensate this difference. On the other hand, Mr. Semier suggests that he has estimated the cost of labor per acre in America rather low; that perhaps it ought to be increased by about \$1.

IS FLOUR MAKING THE LARGEST MANUFACTURING INTEREST OF THIS COUNTRY?

BY J. F. T.

The following extract from the Chicago *News* would seem to show that some people think it is. Gath says: "I have been a part of the week at the National Capital. One evening I heard a conversation between some eminent men on the tariff question. One asked: 'Which is the largest interest in our manufactures?' Everybody missed it but one person, who guessed grinding flour. This was pronounced right, and the manufacture of flour was said to be greater than the cotton crop, the hay crop, and many other things named. 'Yes,' said the interlocutor; 'the 25,000 grist mills in the United States, which ought to put 25,000,000 barrels of flour, instead of 5,000,000 every year, into Europe, have cost so much money by reason of labor and the elements in their construction that we do not now more than half compete with the Hungarians. Of course it will not be possible for this interest, or any other, to compete with the world on fair terms while it is loaded down with war taxes and tariffs in a time of profound peace.'"

To build a flour making mill requires vast quantities of iron, timber, steel, copper and other goods on which a tariff tax of fully 30 per cent. is imposed, making a \$10,000 mill cost \$3,000 more than it ought to cost. The expense of operation is equally great compared with other mills in countries not so severely taxed, for no other country on earth loads itself down in this way as severely as we do. That manufacturers of any sort can carry an export trade under such unfavorable circumstances shows how eminently prosperous they might be if American trade and commerce were conducted on a common sense basis.

THE advantages of water transportation are appreciated more and more. The Board of Trade and Transportation made a move in the right direction when they passed a resolution at their last meeting that the recommended improvements of the Erie Canal are of such a nature as the protection of the commercial interests of the State demand, and that the Legislature should approve of the recommendations before adjournment. Instead of allowing the great waterway between Lake Erie and the Hudson river to go to ruin and gradually fill up, as has been advocated by some, its capacity is to be increased so that full loaded

boats can pass with more rapidity and not be subjected to prolonged delays on account of low water in the canal.

A GERMAN paper says that a roof can be made fireproof by covering it with a mixture of lime, salt and wood ashes, adding a little lampblack to give a dark color. This not only guards against fire, it is claimed, but also in a measure prevents decay.



BOLTING CLOTH.

The best are always the cheapest. Millers will consult their own interest by writing us for prices and samples before purchasing. Our cloth has stood the test of years and the quality is unequalled. Our making up of cloths by our own improvements a specialty.

LATIMER & Co.,
Direct importers of genuine Dutch Anchor Bolting Cloth, and general Mill-furnishers,
33 North Front Street,
Philadelphia, Pa.

BOLTING CLOTH.

Do not order your cloth until you have conferred with us. It will pay you, both in point of quality and price. We are prepared with special facilities for this work. Write us before you order.

CASE MANUFACTURING CO.,
Columbus, Ohio.
Office and Factory, 5th Street, north of Naughten.

WE ARE OFFERING

Special Discounts on Bolting Cloths and all kinds Mill Supplies. Write for prices before buying elsewhere. Specify just what you want. It will pay you. Address, CHAS. A. GUMP & CO.,
Bolting Cloth Importers and Mill Furnishers, Dayton, Ohio.

SITUATIONS WANTED.

Advertisements under this head, 25 cents each insertion for 25 words, and 1½ cents for each additional word. Cash with order. Three consecutive insertions will be given for the price of two.

SITUATION WANTED.

By a miller and good stone man, worked custom and merchant mills both East and West. Good references. Address D. HALLORAN, 406 E. 15th street, New York, for J. BARRETT.

SPECIAL ADVERTISEMENTS.

Advertisements of Mills for Sale or Rent, Partners Wanted, Machines for Sale or Exchange, etc., cost 1½ cents per word for one insertion, or 4 cents per word for four insertions. No order taken for less than 50 cents for one insertion, or \$1 for four insertions. Cash must accompany the order. When replies are ordered sent care of this office, 10 cents must be added to pay postage.

CUSTOM MILL WANTED.

I wish to rent April 1, for a term of years, a good water-power custom mill. Address, MILLER, P. O. Box 40, Glenshaw, Pa.

FEED MILL FOR SALE.

A portable iron disk feed mill for sale. Well built, large capacity, and in perfect order; unpacked, as delivered from factory. Price, \$40. Address, O. F. F., drawer 203, Buffalo, N. Y.

FOR SALE.

Dearborn custom flour mills, 2-run stone, water power, 6-foot head. Located 12 miles from Detroit, and ½ miles from Michigan Central R. R. Mill rebuilt past two years. Building 32x44. Nearest mill 8 miles. Address H. MOSELEY, Box 45, Dearborn Mich.

WANTED.

A traveling salesman to sell Odell Roller Machines and general mill machinery. Only first class men need apply, who are conversant with the business and can furnish references from former employers. Address or call with full particulars, salary, etc., at NORTH STAR IRON WORKS CO., Box 14, Minneapolis, Minn.

FOR SALE OR RENT.

A tide water grist and merchant mill in good order. Only a small capital required to run it. Terms easy and possession given immediately. A Bargain. Three run of burrs. Thirty miles from New York City. The mill remodeled three years ago. Address, CHARLES E. STUDDWELL, Greenwich, Conn.

FOR SALE.

The whole or one-half of one of the finest water power flouring mills in northern Indiana. Mill has rolls, purifiers and everything first class. Can be bought on long time. Address, X. L. C. R., care THE MILLING WORLD, Buffalo, N. Y.

FOR SALE, "THE ALEXANDRIA MILLS," ALEXANDRIA, OHIO.

A New Process custom and merchant mill. Steam and water power, with saw mill attached. A railroad town of 500 inhabitants. In a good wheat growing locality. Will sell very cheap. Address, Box 140 Alexandria, Ohio.

NEW STEAM MILL FOR SALE.

Three story brick building, with iron roof, and with iron roof, brick engine room. Engine and machinery all new and of the most modern and improved makes, in the best town and wheat county in the state. Will sell one-half or the whole. For further particulars apply to or address, JOSEPH N. TULEY, Carrollton, Mo.

MILL PROPERTY FOR SALE.

The subscriber offers for sale his grist mill situated in Tioga Centre, Tioga county, N. Y. Said mill contains three run of stone, and one 12 foot overshot wheel, also one dwelling house, barn, and six acres of land on which is hundred fruit trees, situated in same village. Within one-half mile of Erie and Southern Central Depot. Call on or address B. B. FRANKLIN, Athens, Bradford county, Pa.

FOR SALE.

Second-hand No. 3 purifier as good as new. Price \$75.00. Second-hand 12-inch burr, iron frame middlings mill, \$40.00. Second-hand 18-inch middlings mill as good as new. Old French burrs, as good a mill as there is on the market, \$85.00. One 21-inch 2nd Eureka water wheel of the latest style as good as new, \$125.00. Address A. N. WOLF, Allentown, Pa.

WILL BUY OR LEASE.

The latter preferred. A mill in northern Indiana, southern Michigan, or southern Illinois. From 75 to 150 barrels capacity. Must be on railroad. State capacity, whether stone or roller mill, and very best terms, giving all particulars concerning property. Address "BUSINESS," care THE MILLING WORLD, Buffalo, N. Y.

RARE CHANCE.

For four thousand dollars can be acquired, with immediate possession, the Humboldt County Mill, situated at Livemore, Humboldt county, Iowa, and erected in 1883. Three-run burrs and one pony-run; large bolting capacity; boiler and engine good and ample in power; on side track of B. C. R. & N. R. R., and within 250 yards of the Minneapolis & St. Louis depot. In the best wheat section in Iowa. Terms reasonable. Apply to CHARLES HUTCHINSON, Oskaloosa, Ia.

FOR SALE.

One 60 to 65-horse power vertical engine, thoroughly overhauled and in good order, with governor and starting valve cylinder, newly bored, new piston, new steel crank and wrist pins neat and well proportioned. Cylinder is 18½x20 inches; fly wheel, 8-foot, 22-inch face. Price F. O. B. cars here, \$750.00. Call on or address EZRA F. LANDIS, Lancaster, Pa.

FOR SALE.

Water Mill in Kansas. About 100 bbls. capacity. Ten feet head of water. Good stone flume and desirable merchant trade established. Averages 180 bushels daily in exchange. Located at a railroad town and county seat, in the best winter wheat belt. Will be sold at an early day to the right man. Mill now running day and night. Good reasons for selling. Address, with stamp enclosed for particulars, Lock Box 48, Vandalia, Ill.

GRIST MILL FOR SALE.

The undersigned having engaged in business in Louisiana has decided to offer his grist mill in the village of Brocton, for sale to the highest bidder, on the first day of May, 1884, at the mill in said village, at 2 o'clock p. m. The mill is two stories high with basement, is propelled by a new Burnham turbine water wheel, has three run of burr stones, new corn sheller, building and other machinery in first-class condition. THOMAS CAPWELL, Brocton, N. Y. T. S. MOSS, Agent.

FOR SALE AT A SACRIFICE.

A merchant and custom mill, water power, 45x70, two stories and basement, five run of burr; ready sale for all the buckwheat which can be manufactured, which has an unrivalled reputation; Cranson's roller buckwheat shucker, new last fall; kiln for drying grain; two dwellings; barn 40x60, three stories, eight stalls; ice house, new, 40 tons capacity; carriage house, etc.; 16 acres of land; situated three miles from railroad, one and a half from boat; railroad to be built this year passing premises. Satisfactory reasons for selling. Price, \$7,000. Address, E. N. SIPPERLEY, Westport, Conn.

"MANCHESTER MILLS" FOR SALE.

On Yellow river, Allamakee county, Iowa, six miles northeast of Postville, ten miles south of Waukon, in the best wheat growing section in Iowa. Frame building; four run of burrs; four bolting chests and reels; two water wheels; corn sheller, smutter, cockle separator, middlings purifier and bran duster. Machinery all in good repair and convenient to operate, and a never-failing water power. Ten acres of land, two frame dwelling houses, barn and log house. Mill does a large custom business, and makes a first-class quality of flour. Price, \$5,000; terms, \$2,000 cash, balance on time. Reasons for selling, I am not a miller, and live in Northern Dakota. Address, L. C. JOHNSON, Petersburg, Nelson county, Dakota, or M. B. HENDRICK, Waukon, Iowa.

SOME BARGAINS.

We have on hand the following machinery, which we have replaced at Hardesty Bros. mill, at Canal Dover, which we will sell very cheap:

Two No. 3 Hunter Purifiers, in good order.
One No. 6 Smith Purifier, good as new.
Two No. 3 Silver Creek Bran Dusters.
Two Double Set of 9x18 Stout, Mills & Temple Rolls one set corrugated, 20 cuts; other set 24 corrugations. Rolls were replaced by larger ones.
Four Gratiot Wheat Heaters, good as new.
Also a lot of Bolting Cloth, Pulleys, shafting, and other articles too numerous to mention. Address, THE MILLER CO., Canton, Ohio.



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EVERY THURSDAY MORNING.

C. A. Wenborne, Proprietor.

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BUFFALO, N. Y.Mr. THOMAS McFAUL is the authorized agent and
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Card of Rates sent promptly on application. Orders for new advertisements should reach this office on Tuesday morning, to insure insertion in the week's issue. Changes for current advertisements should be sent so as to reach this office Saturdays.

EDITOR'S ANNOUNCEMENT.

Correspondence is invited from millers and millwrights on any subject pertaining to any branch of milling or the grain and flour trade.

Contributors must give their full name and address, not necessarily for publication, but as a guarantee of good faith.

This paper has no connection with any manufacturing or mill furnishing business. Its editorial opinions cannot and will not be influenced by a bestowal or refusal of patronage. It has nothing for sale, but its space to advertisers and itself to subscribers.

Entered at the Post Office, at Buffalo, N. Y., as mail matter of second-class.

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TARIFF LEANINGS.

THE protective tariff fever seems to be a contagious disease on the European continent. Germany is working at it; France apparently looks to a protective tariff as the only means of saving its languishing industries; Bavaria is considering an increase of duty on flour to exclude foreign competition; Switzerland is extensively agitated by its milling fraternity to increase the flour tariff so high that no producer from outside of their jurisdiction can disturb them. The very serious question arises, what is to become of the world's commerce, if every country carefully closes its doors against outsiders? If the most necessary commodity, like breadstuffs, is to be excluded from free access by means of a heavy tariff, what shall we say of those articles of merchandise which cannot be classed among the necessities of life? The encouragement of home industry is a very plausible excuse, but what will become of many of these very industries which are supposed to be protected by the tariff, if any possible competition on equal terms is excluded by prohibiting the access of other than home goods to their markets. If every country raises the tariff on manufactured products so high that it practically protects the home industry, commerce will have to take a back seat, because the prospect of simple transportation of the raw material to those countries which cannot produce a sufficient amount of it, will hardly be an adequate stimulus to invite ship and railroad building as a means to facilitate trade. THE MILLING WORLD has no intention to enter the large field of discussion on free trade and protective tariff, but we cannot help noting the all-prevailing call for high tariff as a means to protect home industry. The future historian will perhaps relate as a curiosity that at a certain period in the history of nations, every country surrounded itself by a Chinese wall, called protective tariff,

and how experts of all kinds tried to tinker the laws so as to satisfy everybody, those who wanted to live behind the wall as well as those who desired it to be torn down.

After all there is nothing perfect and everything can be improved. At present we are living in an experimental stage where everybody tries to make the most for himself and ignores his neighbor entirely. When we have attained a stage where the benefit of the majority is considered first, and the minority later, the tariff question will be solved satisfactorily; but we are afraid that this millennium will not be reached for some time to come.

If the question of free trade or protection should be put to a popular vote tomorrow, how many, or how large a percentage of the voters, would cast their ballots intelligently? Certainly, only a small minority. This assertion does not say anything against the intelligence of the people at large, but simply states that to vote understandingly upon a subject, we must be acquainted with it, not from one side only, but from all sides, and the number of men who are acquainted with the principles of political economy is as yet largely in the minority. Instead of wasting our energies in tinkering with existing laws, let us try to improve the condition of the next generation by giving them a better understanding of the subject. Replace some of the useless lessons with which we burden the minds of our boys at school, with a few lessons in political economy, and the boy, when grown up, will be able to decide for himself better than his father was able to do before him.

If reliance may be placed upon reports, the flour-milling industry of Canada is at present in anything but a satisfactory condition. In a recent communication, Mr. Edgar A. Wills, Secretary to the Dominion Millers' Association, says: "The present position of our Canadian millers is simply outrageous. A large firm of Canadian millers write me this evening, April 11th, as follows: 'Would it not be well for some person to draw the attention of American millers to the necessity of presenting the Dominion Government with some fitting testimonial, or at least a vote of thanks, for the manner in which they have framed our tariff so that, in seasons like this, they may supply our fair Dominion, and shut up Canadian mills?' Without a doubt such of our millers as export flour to Canada appreciate the action of the Dominion Government in so arranging the tariff as to render this possible, yet what would our correspondent have? So far as we can learn there is no over-abundance of wheat in Canada, and it is below the average in quality. If it were possible for Dominion millers to import American wheat does any one question that flour in that country would be much advanced in value over ruling quotations? A correspondent of one of our contemporaries asserts that there are mills in Canada, full roller mills, paying \$1.10 per bushel for wheat, while selling their best flour for \$5.00 per barrel. This is ruinous for the miller, yet to the advantage of the consuming public. It is not our province to discuss political measures, yet were we to suggest a remedy it would be untrammelled reciprocity between this country and Canada. It is hardly probable, however, that the existing unsatisfactory condition of the milling business in Canada will continue much beyond the coming harvest. An average crop of home-grown wheat will entirely change the situation, and some of those who are now most anxious to quit the business will congratulate themselves upon their inability to find a purchaser. American millers although somewhat more advantageously circumstanced than their Canadian confreres, are by no means satisfied with the present condition of trade.

SOME time ago THE MILLING WORLD noted the possibility of the formation of a "Special Capital Company" at Boston, whose aim would be to aid competent, but poor, young men to start in business for themselves. Now we are told by *Cotton, Wool and Iron*, that a bill for the incorporation of such a company has been brought before the Massachusetts legislature, and had, at the time of issue, already passed the Senate. As we have said before, the benefits which such a company will be able to confer upon the community, in which it is located, can hardly be estimated, for the moral support is worth perhaps as much as the financial. The fact that a young man can see his way clear in any legitimate enterprise, even if he is poor, will exert a stimulating influence all around; many a valuable discovery has been dismissed from the minds of their originators in despair, because it needed money to work them, and ordinarily the capitalists who could be persuaded to advance the necessary funds, took more than even the lion's share. Many a competent young man would have established a flourishing business if he had received the support of a certain sum of money at the proper time; but as it was, the possibilities for advance were denied to him. This company will supply the want in a most business-like and reasonable way, and we therefore hail its incorporation as a step in the right direction to further the interest of the community, and wish that it "may multiply and prosper."

THE export of breadstuffs from the United States is always an interesting topic for milling papers, and the monthly tables issued by the Treasury Department present in a comprehensive and condensed manner the state of our export trade of cereals and flour. The total value of breadstuffs shipped from the various custom districts of the United States during the month of March is placed at \$10,458,466, of which \$3,618,617 was for flour. In the same month of 1883 the export of breadstuffs equalled \$17,841,882. For the three months ending with March 31, the breadstuffs shipments have diminished by \$16,622,955 as compared with a corresponding period of the past year; from \$49,450,469 in 1883 to \$32,827,514 in 1884. The decrease for the nine months ending with March 31, compared with the same period of the previous year shows \$44,474,085. The most conspicuous item in these statistics is the proportionately small decrease in the export of wheat flour, thus while the export of wheat has decreased during the past month by about \$3,000,000, flour has suffered only \$1,000,000. This difference becomes more apparent when compared for the nine months term, during which the export of wheat diminished from 94,500,000 bushels to 53,400,000 bushels, but the export of flour only from 7,182,508 barrels to 6,601,641 barrels. This is undoubtedly an encouraging sign to the millers of the country.

THE patent bills offer a fruitful field of discussion to all trade journals at the present time. If public opinion has anything to do with the formulation of laws, surely the advocates of the pending new patent regulations must have found out by this time that the large majority is against them, for all journals are most unanimous in condemning the bills as well as their advocates. A correspondent of the *Scientific American* touches a key note by the proposal, that all inventors and those interested in the progress of the country, should obtain as many signatures as possible to a pledge, that no advocate of any of the present new bills shall ever receive their vote at any election. Such pledges pouring in on these wise law makers from all parts of the country, would beyond doubt have the desired effect upon the legislators and demonstrate to them in

what direction they must look for political support. THE MILLING WORLD cordially endorses such a proposition with the firm conviction that our existing patent laws, because far from perfect, should be made more efficient for the protection of the interests of both inventor and public, but not changed in any other manner. If we cannot improve them for the benefit of everybody, do not let us try to alter them to the detriment of many and to the advantage of a few mercenary individuals, but rather let "well alone" and leave them in the present form.

PREPARATIONS are going on in Buffalo to receive the American Society of Civil Engineers during the coming summer, and some of the most influential citizens are busily engaged in arrangements which will make the members feel at home in the Queen City of the Lakes. Favorably located as a railroad center, and of easy access by lake steamers, with a summer temperature seldom above 90° F., and a constant breeze of wind blowing from Lake Erie across the city, Buffalo offers all that the heart of man can desire, as a place of meeting during the hot months. In addition to this important factor, the natural attraction of Niagara Falls, distant only twenty miles north, and Chautauqua Lake forty miles south from the city; the recently built commodious music hall with a seating capacity of more than 4,000; fine park systems, beautiful drives, and many other natural and artificial attractions, all combine to make Buffalo the place *par excellence* for the summer meetings of large associations, a fact which is becoming known more and more, and accordingly appreciated by those who have visited us during the months of July and August.

MILLERS should take a direct interest in the proceedings of the Forestry Convention which is soon to be held in Washington. As large users of water power they, above all others, should lend a helping hand to place the forest management of the country in competent hands. Without extensively discussing the influence of forests upon the amount of rainfalls, very few dare to deny that the constancy and regular flow of the waters in rivers and creeks depends very largely upon the presence or absence of the woods along their banks and head waters. And for this, if for no other reasons, millers must direct their attention towards the possibility of regulating the supply. Constant and available water power is always an important factor in the development of industrial centers, and if all those who are interested in the future welfare of the country join hands with the forestry convention, the question of woodlands will soon receive a satisfactory solution.

BOSTON has adopted a new, or better, an improved system of flour inspection. Under the old rule there existed three separate inspectors, with the necessary number of assistants, and each of these inspectors performed his work separately and independently. Any appeal from the decision of either one, had to go to the Committee of Exchange for settlement. The improved system provides that the three inspectors shall form one board, and issue their reports as such, and not separately. The good that may accrue from such a change is apparent. It does away with the possibility that one inspector may grade a flour lower or higher than the other, whereas now, it all conforms to the decision of one board. The grading of the flour has not been changed.

THE next convention of American inventors will be held in Buffalo, N. Y., on the second Tuesday in January, 1885.

ESTABLISHED 1856.

EUREKA GRAIN CLEANING MACHINERY | GENUINE DUFOUR BOLTING CLOTH

OVER 18,000 MACHINES IN USE.

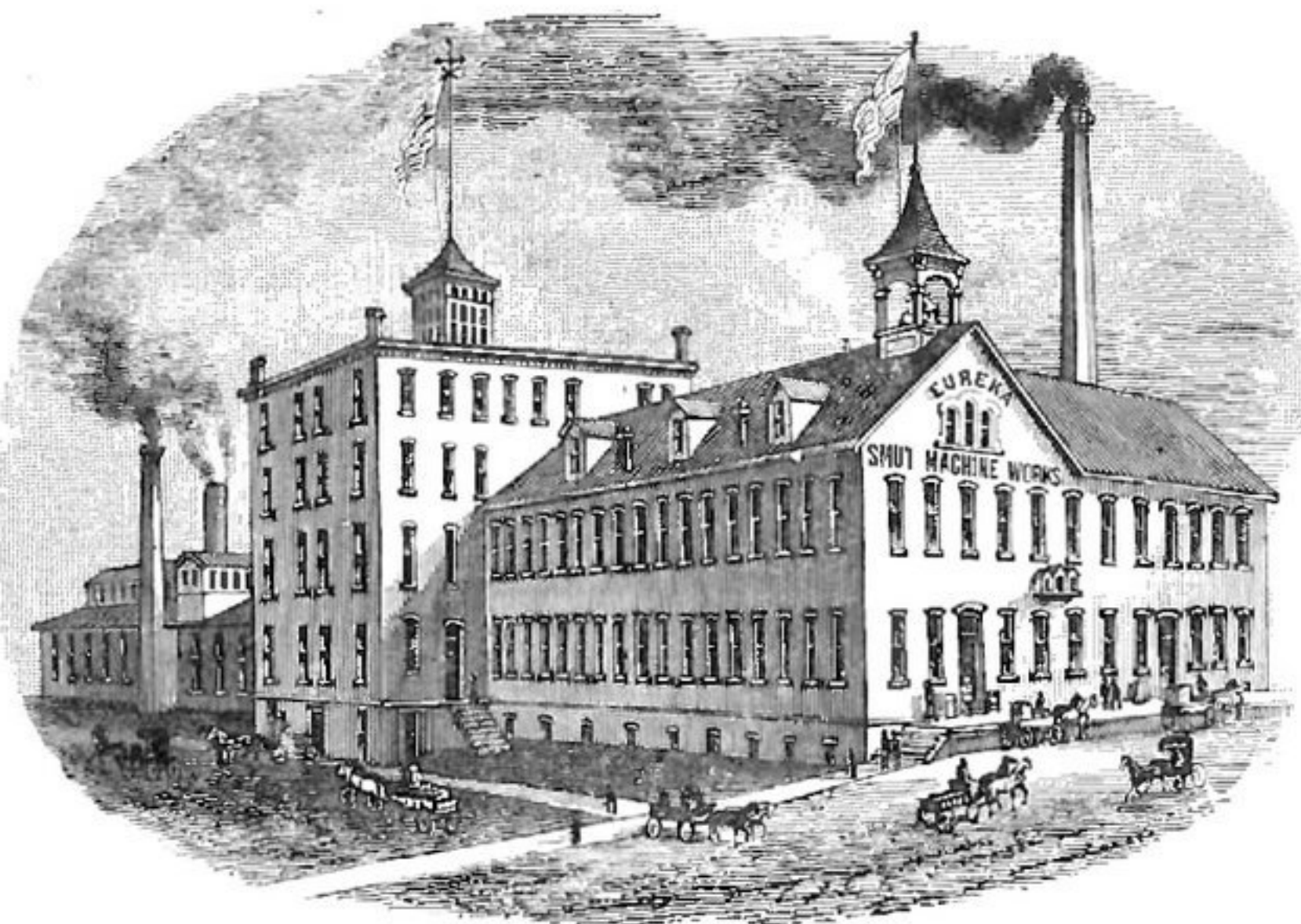
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The Eureka Separator,
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Eureka Brush Finisher,
The Eureka Magnetic Automatic Separator,
Silver Creek Flour Packer.

Our establishment is the oldest, the largest and most perfectly equipped of its class in the world, and our machinery is known and used in every country where wheat is made into flour.

HOWES & EWELL,
SILVER CREEK, N. Y.

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We handle this justly celebrated cloth in large quantities, and can fill all orders upon receipt. For such as may prefer a cheaper grade, we offer our

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Guaranteeing it to be equal in every particular to any other cloth on the market, except the Dufour. We have handled it for years, have sold thousands of yards of it, and know it will fully sustain our representations.

Send For Samples of Cloth, Our Style of Making Up, and Prices.

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THE IMPROVED MORSE ELEVATOR BOLT

THE KNICKERBOCKER CO.

MILWAUKEE, WIS., March 20, 1884.

Gents: Your Bolt is working well and beats anything in the way of a Bolt, centrifugal or any other, that has yet been invented. As a general thing we do not like to certify to a thing on so short a notice, but your machine is an exception. We will experiment as we have opportunity and see how many more machines we can profitably use. Wishing you all success, we remain,

Your truly,

E. SANDERSON & CO.

THE KNICKERBOCKER CO.

JANESVILLE, WIS., April 9, 1884.

Gents: I am fully satisfied with your Morse Elevator Bolt, it is a wonderful machine, and is as far ahead of the old Bolting Chest of Reels as the roller process is ahead of stone milling. Enclosed find draft for the No. 1 sent me, please forward the two No. 1 Bolts bought of your agent, one is for bolting patent stock, and the other low grade stock.

Yours Truly,

C. W. HODSON.

THE KNICKERBOCKER CO.

CLEVELAND, OHIO, April 3, 1884.

Dear Sirs: Regarding the Morse Bolt we cannot say enough in its praise. We have three different makes of Centrifugal Reels in our mill, and having given the Morse Bolt a fair trial alongside of them we can certify as to their merits. We have demonstrated the Morse Bolt will handle double the quantity the Centrifugal will and produce a better flour and cleaner finish. In fact any material in the mill can be handled with more economy and better results than upon any system we know of. The Morse Bolt being under the complete control of the operator is a point in its favor that cannot be over-estimated, and we believe when its merits are more widely known it will supercede the present mode of bolting.

Yours respectfully,

M. C. DOW & CO.

The Knickerbocker Co., Jackson, Mich.**THE EXCELSIOR ANCHOR BOLTING CLOTH TO THE FRONT.**

Recognized as the Queen of All Bolt Cloths by One-Third of the Mill Owners, Millers and Builders in the United States, and Their Verdict is

GIVE US THE EXCELSIOR AND NO OTHER!

OUR MAKING UP OF CLOTHS IS THE BEST.

SEND FOR CIRCULAR No. 3.

HUNTLEY & HAMMOND, SOLE IMPORTERS, SILVER CREEK, N. Y.

Successors in the Bolting Cloth Trade to Huntley, Holcomb & Heine, Holcomb & Heine and Aug. Heine.

OUR MINNEAPOLIS LETTER.

[From our own correspondent.]

DULL TRADE MAKES BLUE MILLERS—WHEAT STOCKS AMPLE—AN UNLUCKY MILL—THE NEW MILLER-MAYOR—NOTES AND GOSSIP.

There seems to always be something the matter with the Minneapolis miller, and this time is no exception to the rule. The trials and tribulations of low water over, he has run against a new snag of most formidable proportions, and is feeling very blue. It is nothing more nor less than a dead, dull flour market. The fearful plunges of the wheat market are the cause of it. Buyers want flour at figures based on current prices of wheat, but millers, (the majority of those in Minneapolis at least), have their wheat already bought at higher prices, and cannot grant these concessions without loss, and that they are not disposed to submit to. This places the buyer and seller at some distance apart, and works an embargo on trade. The millers here have an extremely heavy load of wheat, and with the heavy decline at the lake markets, they naturally feel down in the mouth. But their wheat is of the choicest grades, of which there is only a limited amount in the country, and they do not feel disposed to sacrifice it in the present condition of things. They say that if buyers do not want their flour at prices which will let them out whole, that they will shut down their mills and hold it, and bide their time. As this feeling pretty generally prevails, the shutting down of a considerable proportion of the city's capacity would not cause surprise. The mills at present are running quite strong, probably to seventy-five per cent of their full capacity, producing 100,000 barrels per week or over, the past two weeks. They are in many instances working on old orders, and there may be a new dispensation of things as soon as these are filled.

The receipts and shipments of Minneapolis for two weeks are shown in the appended table:

FLOUR.			
	Receipts.	Shipments.	
	Bus.	Bus.	
April 1,	3,375	106,150	
" 8,	4,830	96,896	
Total	8,205	203,046	
WHEAT.			
	Receipts.	Shipments.	
	Bus.	Bus.	
April 1,	576,000	69,500	
" 8,	451,500	58,500	
Total	1,027,500	127,500	

The weakness and low price of wheat at lake markets has taken the life pretty much out of the Minneapolis market, and dealers are as much depressed in spirits as their brother millers are from flour being dull of sale. There is scarcely any trading on 'change, the only inquiry coming from country millers, and this amounts to comparatively nothing. No. 1 hard is quoted at 98½c; No. 2 hard, 92½c; No. 1 northern 88c. The receipts of wheat lately have been quite heavy, the past two weeks being about equal to the amount ground. The stock in store, as a result, does not show any marked decrease. At Minneapolis it is about 2,480,000 bushels in elevators, and at St. Paul, 1,000,000 bushels. The greater portion of this is owned by local millers, and is not all they have got either, as pretty heavy returns could be made from the country, if they felt disposed to show their hands. We understand from a reliable source, that Townsend & Co., of Stillwater, have their elevator there, which holds about 300,000 bushels, full of wheat.

The Palisade mill seems to be very unfortunate. That kind of a speech is on the lips of nearly every one that knows anything about it. It was overhauled a year ago last winter, previous to that time being of 600 barrels capacity, and increased to about 1,300 barrels. Ever since the enlargement it has seemed to be doomed to bad luck. When starting up, after being changed over, its flour was not up to standard, and after endeavoring to remedy the defects for a time, the proprietors, L. Day & Co., finally turned it over to the Washburn Mill Co. That company did better with it, but soon found that with low water, and it located at the lower end of the canal, the mill stood a very poor show for power. The deepening of the flume extending from the canal to the mill was next undertaken, and consumed a number of weeks. This improvement completed, the power was then hardly all that could be desired, but the rise in the river soon provided a solution of the problem. Since then the mill has had several break downs and accidents, the last being quite a serious washout, and has not accomplished much all the winter, in fact, it might almost be said that it has done very little effective work since being enlarged.

The great popular wave by which Geo. A. Pillsbury was carried into the office of mayor on the 1st, must have given the Pillsburys much satisfaction. Mr. Pillsbury was elected to the office by a plurality of over 6,000 votes, which is without precedent. Headed by Chas. A., son of Geo. A., the Pillsburys sailed into the contest with their characteristic spirit, sparing neither labor nor their pocket book to reach the coveted goal, and they got there with their usual degree of success. It was a grand victory of the law and order party over the sporting element, which favored the "wide open" policy. Mr. Pillsbury thus far gives signs of being one of the very best mayors that Minneapolis ever had.

The Palisade, Pillsbury A, and Washburn A mills, have all broke core-gears or pinions in the last ten days, and been put to much inconvenience and some delay. The Pillsbury A was the least hindered, the engine of this mill being hitched to its disabled side.

Jesse B. Dorman, whilom editor of the *Miller & Millwright*, has been "taking in" Minneapolis and its wonders for two or three days, being business manager of the Esmeralda company which appears here next week.

J. H. McNally, the oiler who had his arm badly cut up by a pair of gears in the St. Anthony mill, died on the 4th, from blood poisoning, resulting from his injury.

Geo. Haford, one of the two second millers of the Pillsbury A when it was first started, has just returned from California, where he has been for some time.

Willford & Northway have taken the contract to remodel the mill of C. Albers & Co., at Warsaw, Ill., to the roller system, giving it a capacity of 200 barrels.

The Washburn A mill is turning out about 3,000 barrels of flour in twenty-four hours, and the Pillsbury A 4,400 to 4,800 barrels.

Capt. Shuler has withdrawn from R. G. Shuler & Co., the mill furnishing business becoming too lean picking to suit him.

The cooper business here is quiet, millers getting ten hoop barrels at 40 to 44c, according to quality of stock.

C. M. Palmer, publisher of the *Northwestern Miller*, and wife, depart on a European trip about the 1st prox.

The new 100,000 bushel elevator of the Pillsbury A mill is completed and in operation.

The Phoenix mill has shut down for a week or ten days to make repairs.

Harry Young, the millwright, has gone to Washington territory.

Minneapolis, April 12. CALB.

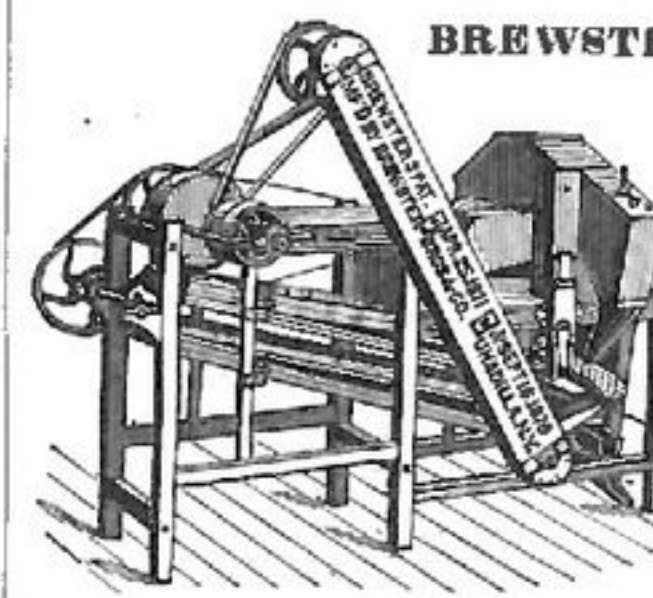
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No. 284 Main St., Buffalo, N. Y.

THE DOUBLE CURRENT PURIFIER

Has the Automatic Separating Feeder. It takes out the heavy specks between each number of cloth. It settles the heavy dust and lifts the light fuzz into the dust room. It has "Collins" Automatic Cloth Cleaner. Licensed under all conflicting patents. Descriptive circulars and prices on application. Mention this paper.

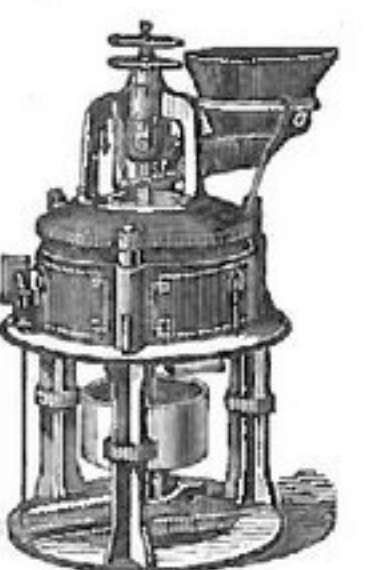
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Buckwheat Refiners & Portable Mills



BREWSTER'S CELEBRATED
Buckwheat Refiner
Is the only machine
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PURE, WHITE
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The only reliable, practical and durable machine
IN THE WORLD.

THE POSITIVE ADJUSTMENT
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MIDDINGS MILL
Is Strictly Self-Protecting
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Perfect Granulator
Grinds Cool, Self-Oiling, Great
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Simplicity and Durability Combined.



Satisfaction Guaranteed on all our Goods. Send for Descriptive Circular, giving Prices, Sizes, Terms, etc.

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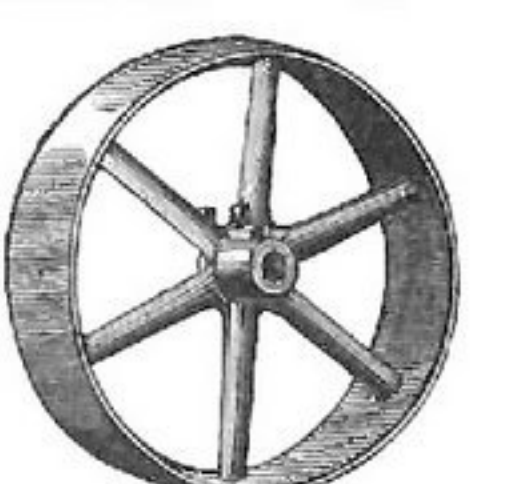
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PRICE, \$15.00.

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SHAFTING, PULLEYS & HANGERS.

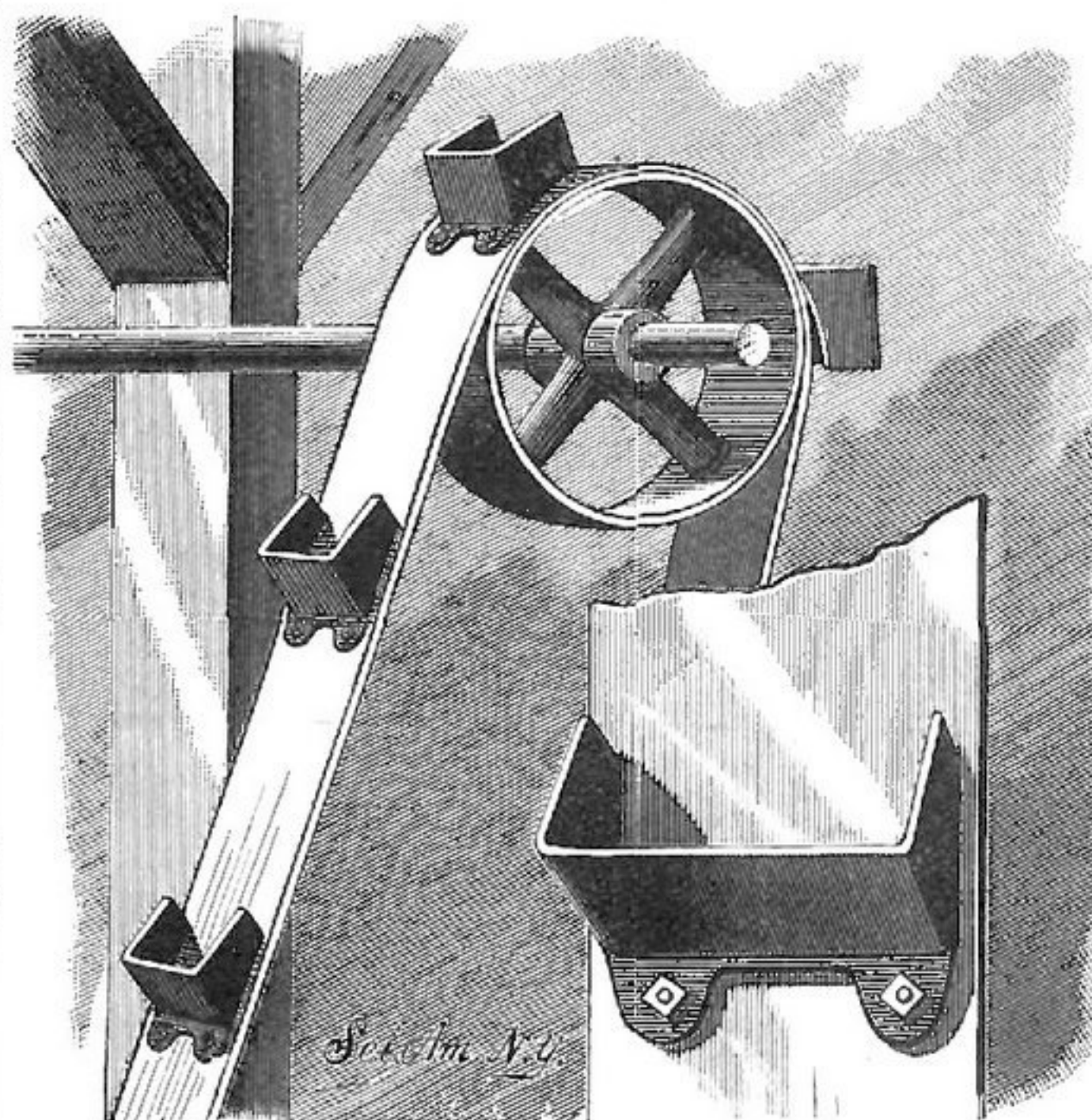
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— THIS CUT REPRESENTS —

HOLMES' THREE-SIDED ELEVATOR BUCKETS

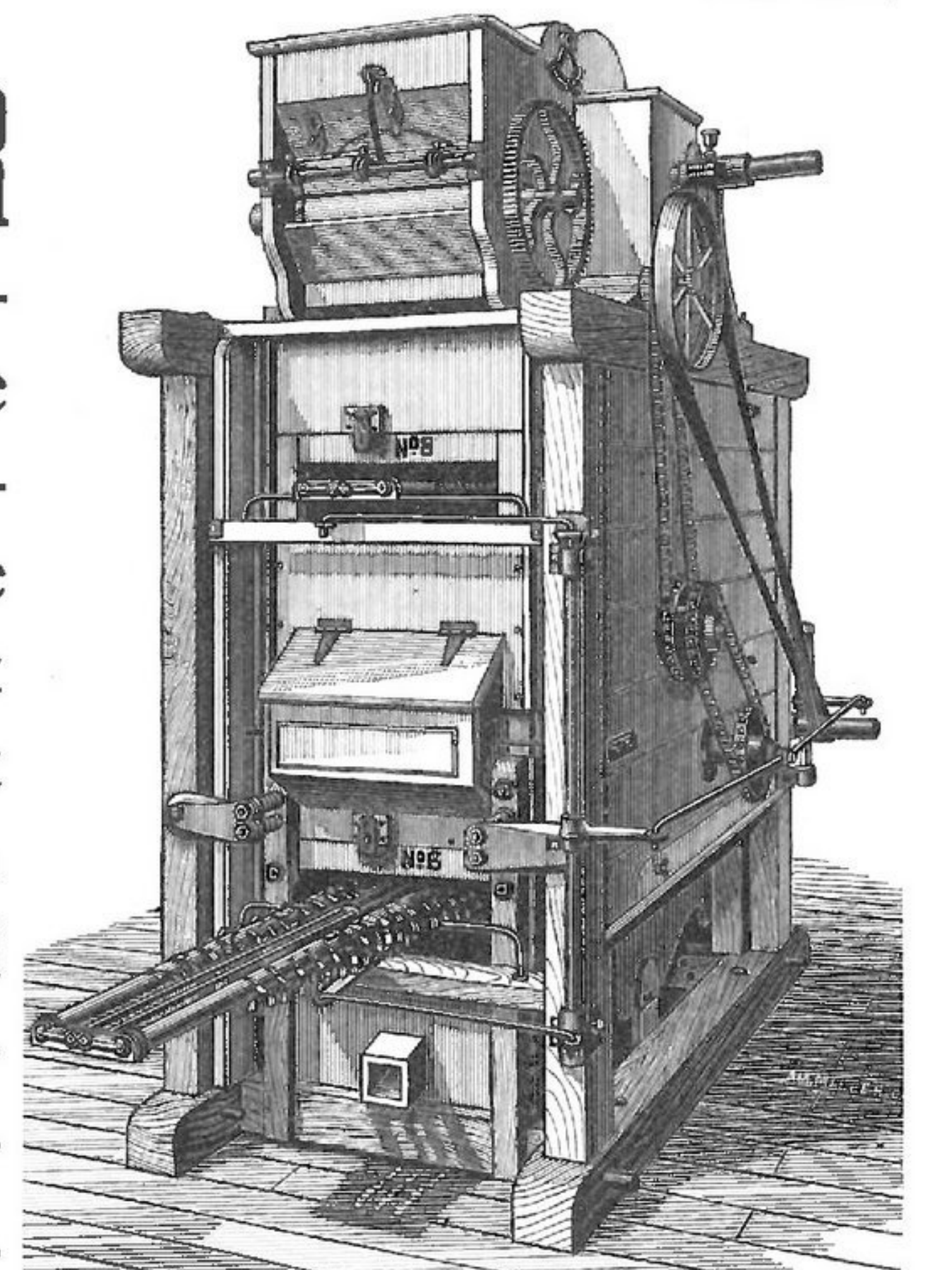


Recently patented by JOSEPH A. HOLMES, Greenland, N. H. It excels in **Strength, Durability, Simplicity and Cheapness.** It is impossible to clog or carry contents around the second time. Can be run on perpendicular belt, and with greater speed than any other Bucket. These Buckets can be seen at Mr. Holmes' Steam Mill on the line of Concord R. R., near Greenland Station; also at his water mill on the road leading from Portsmouth to Exeter, where they have been running with perfect success for six months or more. Mr. Holmes has already three firms manufacturing these Buckets for him, to fill orders that are coming in from all parts of the United States. Orders have been filled in some of the southern states, and the Buckets have given perfect satisfaction, and the same firms have sent in second orders. These Buckets are being placed in the hands of the mill furnishers of New England. Millers will find it to their advantage to order "Holmes' Three-Sided Elevator Buckets."

Send 20 cents in stamps by mail for sample Bucket. Orders may be sent to Mill Furnishers, or to

JOSEPH A. HOLMES, GREENLAND, N. H.

PLEASE MENTION THIS PAPER.



THE GEO. T. SMITH IMPROVED MIDLINGS PURIFIER.

The Geo. T. Smith Purifier was the first successful Sieve Purifier ever used in this or any other country. The demand for it has steadily increased from the day the first machine was started.

ADAPTED TO ALL SYSTEMS OF MILLING. FIFTEEN SIZES, SUITABLE FOR MILLS OF ALL CAPACITIES.
SINGLE, DOUBLE AND ASPIRATOR MACHINES.

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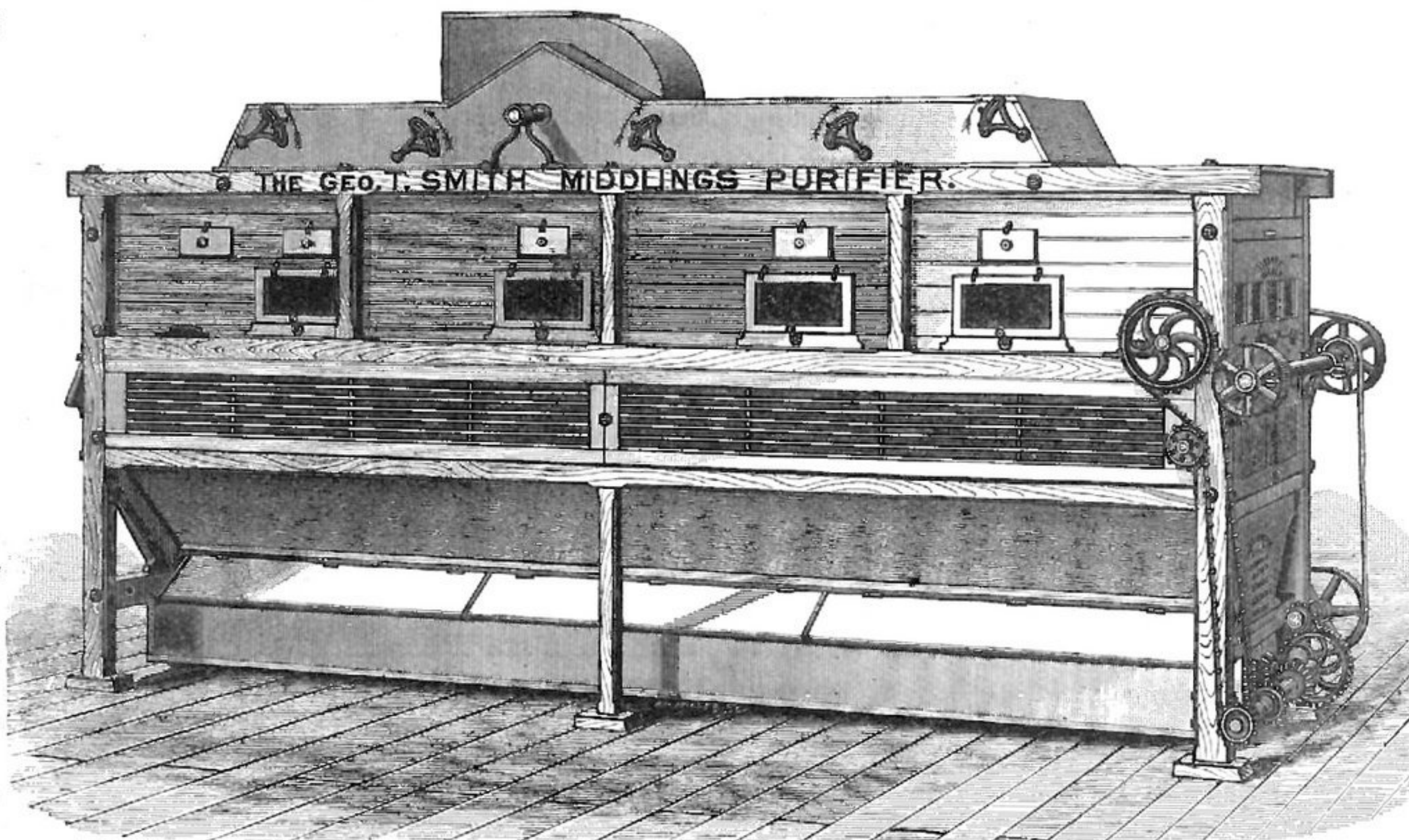
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And More are Now Running.

EXCLUSIVE FEATURES.

Patent Automatic Brush.
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Feeding Device.
Patent Coil - Spring Ec-
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EASILY ADJUSTED.



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7,000

And More are Now Running.

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Currents.
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LIGHT RUNNING.

2,500 SOLD IN 1882. The sales for 1883 to date are double what they were for the same months last year. 2,500 SOLD IN 1882.

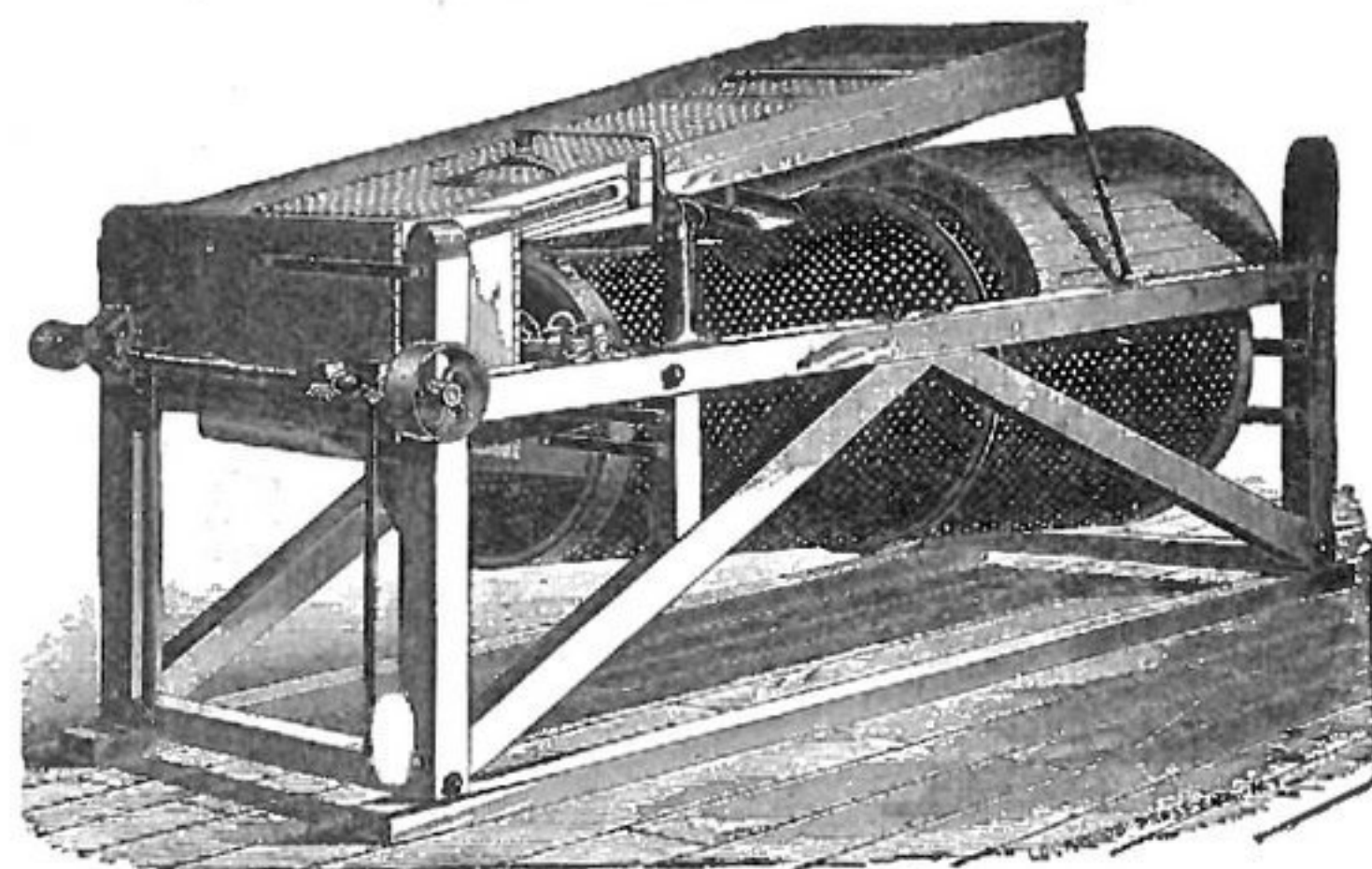
SPECIAL NOTICE.—We guarantee every owner of a Geo. T. Smith Middlings Purifier absolute immunity from loss by suits for infringement.

We are giving greater attention than ever before to the mechanical details and material used in the construction of our machines, having substituted **STEEL SHAFTHING** for iron, and adopted **HARD WOOD** for frame, and notwithstanding the immense outlay incurred in securing protection under all existing patents, and the cost of constant improvements, our **PRICES REMAIN UNCHANGED.**

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Cockle Separator Mfg. Co., Milwaukee, Wis.

GENERAL MILL FURNISHERS.



MANUFACTURERS OF
Improved Kurth's Pat.
COCKLE SEPARATOR,
Built also in combination with
Richardson's Dustless
Wheat Separators.
Large Capacity Combined With
Good Quality of Work.
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GRAIN CLEANERS
Fully Guaranteed to Give the Best
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very Simple and Cheap.
Perforated Sheet Metals
AT LOW PRICES.

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PATENT MILLSTONE CEMENT

Invaluable to Millers for Repairing and Filling the Joints, Cavities, and Seams in French Burr and other Millstones.

PRICE PER CASE, \$5.00. SEND FOR CIRCULAR.

Union Stone Co., 38 & 40
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Union Emery Wheels, Emery Wheel Machinery and Tools a Specialty. Wooden Polishing Wheels, Grinders' and Polishers' Supplies. Catalogue on Application.

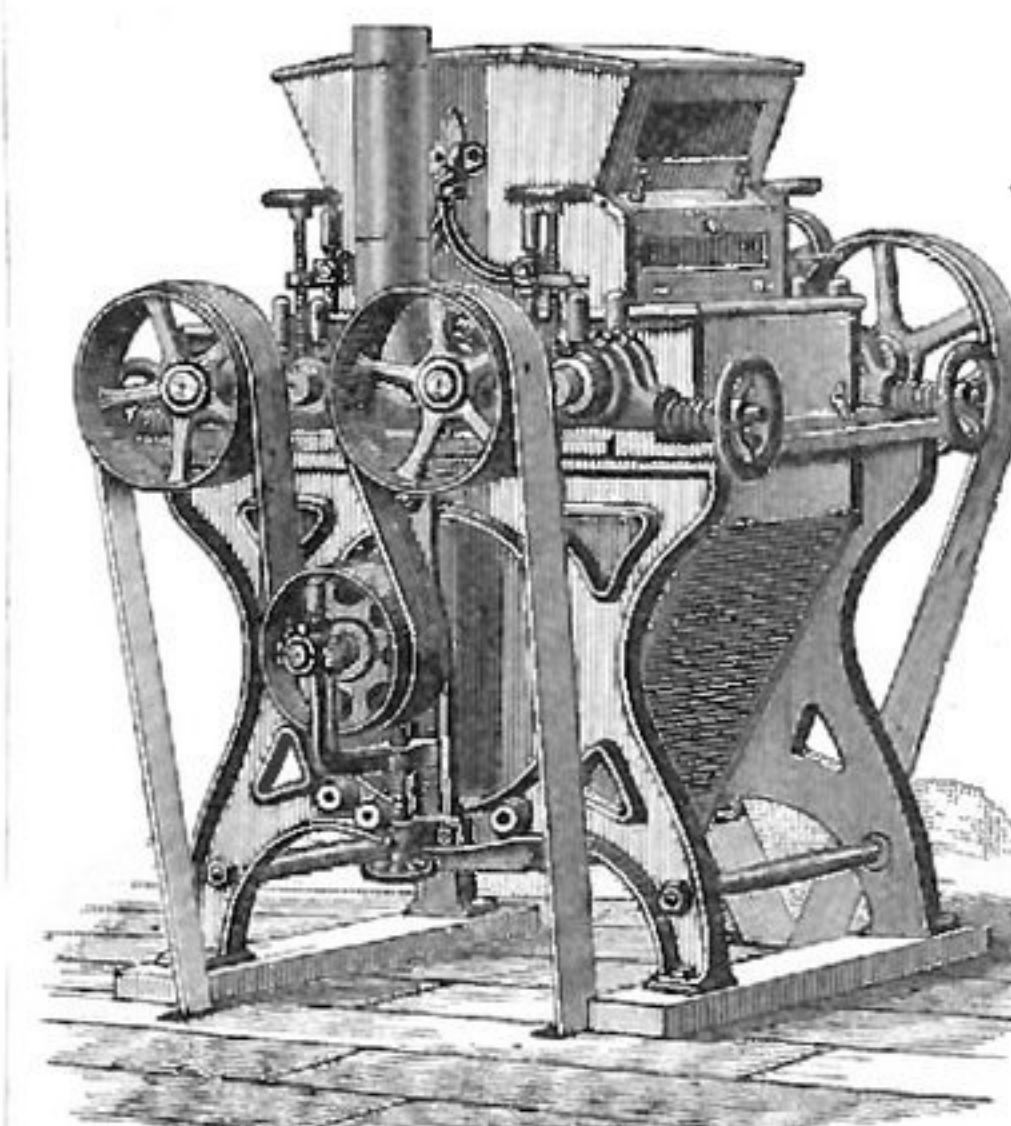
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THE ORIGINAL SIX-INCH ROLLER MILL.

THE BEST ROLL IN THE MARKET

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PATENT IMPROVED ROLLER MILL.



Our six by twenty rolls weigh 175 pounds each, making 700 pounds to drive in a double set roller mill, as against 1800 pounds in the old style mill; this fact enables us to run with greater speed, with no danger of hot journals, hence our greater capacity. Produces better results, because there is less Pulverizing and Better GRANULATION, the point of contact being much less on a SIX-INCH ROLL than the old system; the STOCK BEING KEPT LARGER and more middlings produced on each reduction. It is a well established fact that the object in gradual reduction milling is to make as large a percentage of middlings as possible, and we claim to make MORE MIDLINGS from a bushel of wheat than ANY OTHER ROLLER MILL, and we are prepared to prove our claim. The MORE MIDLINGS the greater percentage of PATENT FLOUR, and better COLOR of ALL grades. We build the only Roller Mill with **PATENT EXHAUST ATTACHMENT** for taking away all GENERATED HEAT, thus doing away with the GREATEST ANNOYANCE that millers have experienced in running the gradual reduction system, at the same time keeping the stock cooler as it passes

to the Reels and Purifiers, consequently the separations are made more easily. We use nothing but the Ansonia Chilled Iron Roll, with steel journals, ground, and run them entirely with LONG BELTS. With a feed device for throwing out and in easily, with a leveling device that is positive and perfect, and an adjustment so entirely positive, that feed can be stopped or cut-off, and put on again without readjusting rollers. **WE DO NOT DEPEND UPON THE STOCK TO KEEP OUR ROLLS APART.** We are prepared to furnish plans for our Gradual Reduction system on short notice, and fill orders for our Mills promptly. We make both Corrugated and Smooth Rolls, Twelve, Fifteen, Eighteen and Twenty Inches Long and Six Inches in Diameter. Prices Sent on Application. Correspondence solicited. Address:

O. E. BROWN MANUFG. CO.

GRAND RAPIDS, MICHIGAN.

SCIENTIFIC AND MECHANICAL

MECHANICS.

THE future of electricity as a power is full of promise, said Prof. Sellers at the opening of a course of lectures on Mechanics, at Philadelphia. The coal we now squander, using but a small percentage of its theoretical force, is capable of yielding its energy either as heat or electricity, and the time will come when we will not burn this coal to boil water and in that boiling lose say 1,000 units of its heat at the moment of the conversion of water into steam, lose all this, never to be getting it back, but we will take from the coal its energy in the form of electricity in a more near ratio to its true value, and then we can convert that energy into whatsoever form of energy we may require. The best that science can do is to point out just what energy there is in this or that source of power. The most we can hope to utilize of this energy as power will never amount to 100 per cent. Nature gives us nothing without exacting something in payment. Science has made so sure of these facts that we can base our faith on them, and with this knowledge we are willing that others than ourselves shall invest their money in machines which are claimed to be able to develop from five drops of pure water inclosed in a ball, power enough to propel the largest steamships across the ocean. It is ignorance of the unalterable laws of physics that leads ignorant people into squandering money on so-called inventions that out of nothing are to give us great results. An ignorant man will spend his time pondering over perpetual motion machines, so will a man with brain gone wrong; the first quits his folly with more learning, the second finds his home in the mad-house. A third and worse class aim to deceive and, for a time, many a one has done so. When shrewd ignorance resorts to dishonest methods, the confiding public is apt to suffer in pocket.

* * The crying need has long been for a fire-proof shutter, which, while it afforded protection to buildings and stores from approaching flames would also be accessible to firemen. The sheet-iron shutters, so common here and in other large cities, have proved such a hindrance in case of fire in buildings where they were used, that they have been again and again condemned. Ex-Chief Matt Benner of New York city has just invented and perfected a shutter which, we are told by an exchange, gives promise of obviating the difficulties arising from the use of the impregnable iron fastenings. His shutter is made of heavy wire gauze, and as the following advantages; through it a fire in progress may be discovered by a passer-by, and an alarm more promptly sounded. A fireman approaching it with a play-pipe can at once cut a hole in it with an axe, and thus permit the introduction of water without delay. The power of wire gauze to arrest flames and even heat is well known. This quality of the shutter will make it even a better protection from without than the solid iron shutter. At a recent test many of the valuable points of the shutter were brought out, and its superiority over the old iron appendage fully demonstrated.

* * Boracic acid has of late acquired quite a reputation as a preserving agent without any injurious properties whatever; on the strength of this it has been highly recommended as a preservative for milk, meats and other food preparations. Recent experiments made by Mr. J. Foerster, and reported in the *Chemical Review*, will

exert a rather depressing influence on the hitherto unshaken faith in boracic acid. His results lead him to the assertion that the continued consumption of even small quantities of the preservative with the daily food, is detrimental to proper nutrition. Living upon a diet which consisted exclusively of milk and eggs with and without the addition of boracic acid, Mr. Foerster carefully examined the feces in all cases, and invariably found an increase of dry substance and nitrogen in the secretions when the acid was used; in addition he found an abnormal quantity of bile excreted and that part of the albuminous constituents of the food were unnecessarily lost.

* * A new process for making leather belts is reported in England. The invention is stated to dispense entirely with splicing, sewing, cementing, and copper riveting. There is no waste of leather whatever, except what is made in squaring the ends of the strips to be joined. The joining is stronger and more flexible than when cemented and sewn; in fact it is more flexible at the joining than any other part of the belt. The joining is not more than half an inch long, and instead of one end being placed upon the other, they are fixed fairly end to end, and there is nothing whatever on either side of the joining to come into contact with the pulley or drum or wear off as laces and rivets do. The belt can be run on either side or both sides at once, either end first, and being perfectly flat on the running side, it is quite noiseless when traveling. So simple is the arrangement that one man, with proper appliances, which are not costly, can prepare and finish a joining per minute up to 3½ inches wide.

* * The statement that Maine cities were abandoning the standard time to such an extent, that the Maine Central had issued circulars announcing the change of its time tables, is incorrect. Mr. Payson Tucker, the well-known general manager of the Maine Central, telegraphs that "no new circulars relative to standard time have been issued by the Maine Central railroad. The only cities in Maine which have not adopted standard time are Bath, Bangor and Belfast."

* * The annual meeting of the American Forestry Congress will commence on the 9th of May next, at Washington, the sessions being held in the rooms of the department of agriculture. The object of holding the meeting at this early date, is with the view of influencing the members of Congress, which will be then in session. Among other subjects to be discussed, is that of the laws and regulations regarding the tenure and management of timber lands.

* * A useful instrument, which will doubtless become a necessity in certain lines of manufacturing, is being introduced in England. An electric system is established throughout a factory, which, through the agency of an indicator placed in the office, shows at a glance whether the different machines in the building are properly in operation.

* * Machine driven and button-set rivets, as a rule, fill the holes much better than hand-driven ones, but care must be exercised or the work may be unsatisfactory, says the *Locomotive*. The staunchest riveting seems to be done with that class of riveting machines which have facilities for squeezing the plates tightly together before driving the rivet.

* * M. Girard, Director of the Paris Municipal Laboratory, says that the chemical knowledge applied to the concoction of spurious foods and drinks is of a very high order, and would suffice to make the for-

tunes of the adulterators a dozen times over, if applied in an honest capacity.

* * Concerning the ratio in weight between grain and its straw, Neuhaus-Selchow has lately made known the results of his experiments. In wheat and rye the weight of grain is about one-third of the whole; in barley, from one-third to one-half. The rest is straw and chaff.

* * Some of the leading business men of New Orleans, we are told by an exchange, are asking Capt. Eads to project and build a bridge over the Mississippi at that point. The scheme seems rather a bold one, as at floodtide the water is higher than the land.

Improved Success

Percentage.

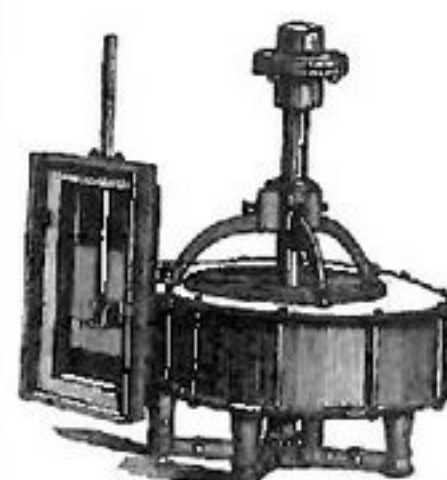
Full Gate.....86.29
¾ Gate.....86.07
¾ Gate.....81.90

This Wheel is Durable and Cheap.

Send for Pamphlet to
S. MORGAN SMITH,
YORK, PA.



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MANUFACTURER OF
The Cushman Scroll Water
Wheel, Combination Turbine
Water Wheel, Iron Flumes for
the Combination Wheel.
*The Scroll Wheel Needs
No Flume.*
Also Mill Gearing and Shaft-
ing of every description.
Prices low. Send for Circular
and Prices before buying any
other Wheel.

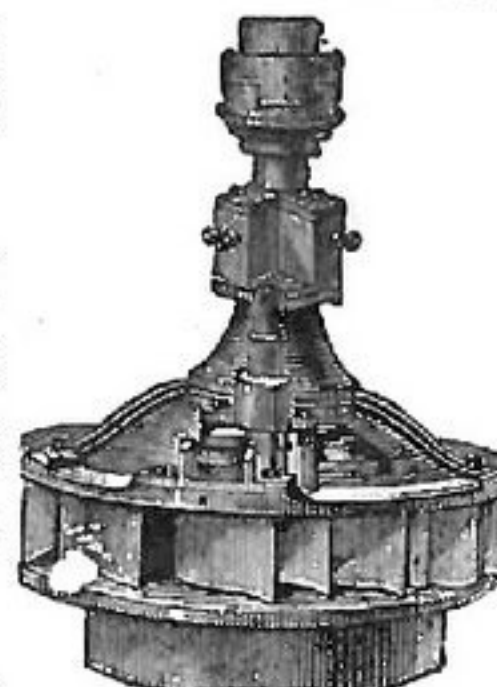
DWIGHT CUSHMAN, HARTFORD, CT.

MERCER'S

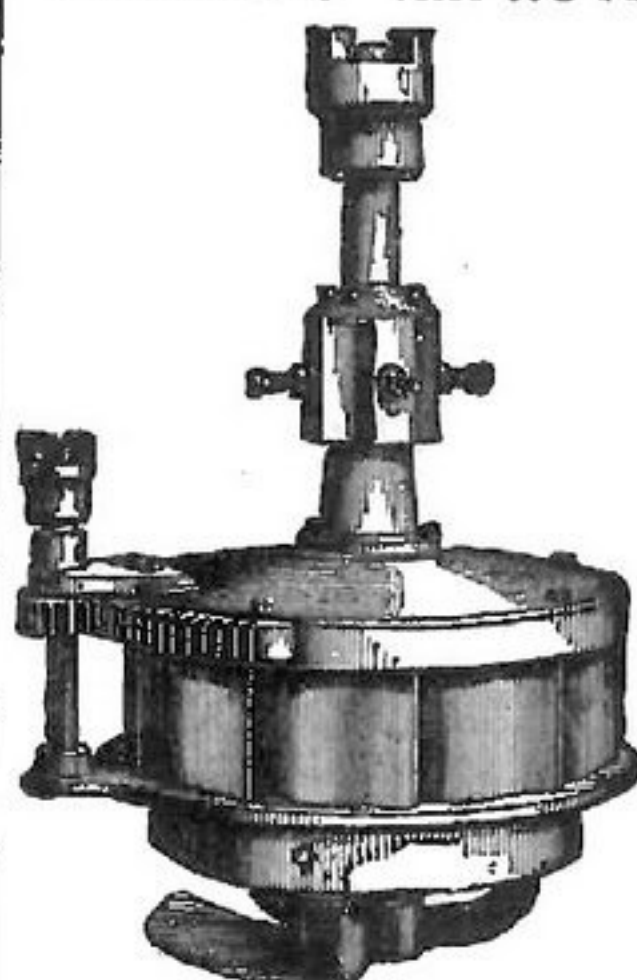
RELIABLE

Turbine Water Wheel.

This wheel is acknowl-
edged one of the best on the
market. Has valuable im-
provements in the construc-
tion which is commanding
the attention of buyers.
Send for catalogue and price
list. T. B. MERCER,
WEST CHESTER,
CHESTER CO., PA.



LESNER'S IMPROVED TURBINE.

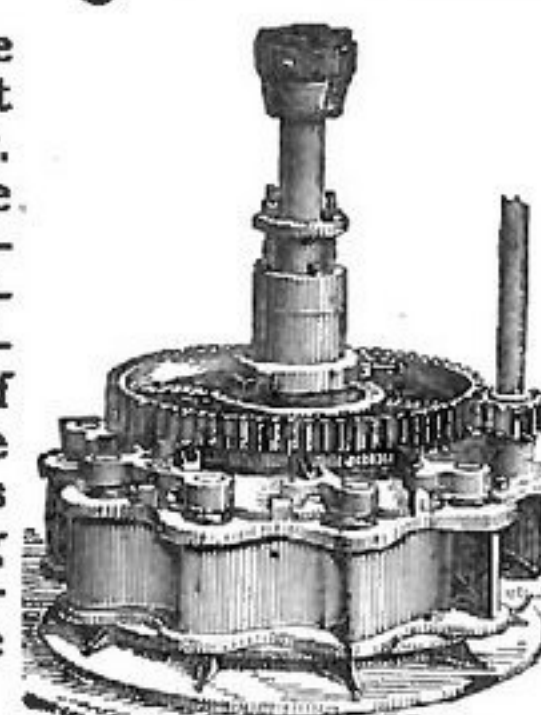


Simple,
Durable,
Strong.
Gate Works
EASILY
—AND—
RAPIDLY.
PERFECT
Satisfaction
—IS—
GUARANTEED.

W. B. WEMPLE'S SONS, FULTONVILLE, N. Y.

The Watertight Turbine

Has the best gate
in existence. Don't
leak. Don't clog.
Guaranteed to give
better part gate re-
sults than any other
wheel. Investigate
the claims of this
wheel before
purchasing. Sales
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Send for new illus-
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just out.



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BURNHAM'S IMPROVED Standard Turbine



IS THE
Best constructed and finished
gives better Percentage, more
Power, and is sold for less
money, per horse power, than
any other Turbine in the world.
New Pamphlet sent free by

Burnham Bros., York, Pa.

RIVAL
STEAM PUMPS
THE
CHEAPEST
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BEST
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HOT & COLD
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SIZES
MANUFACTURED BY
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CINCINNATI, OHIO

ALCOTT'S
IMPROVED TURBINE WATER WHEEL

This Wheel gives high results, and
is acknowledged the best, most prac-
tical and efficient Turbine made.
For Simplicity, Durability, and
Tightness of Gate it has no equal.

State requirements and send for Catalogue to
T. C. ALCOTT & SON,
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GOVERNORS { For Water Wheels } Cohoes Iron Foundry & Mch. Co.
Send for Catalogue. Cohoes, N. Y.

POOLE & HUNT'S LEFFEL TURBINE WATER WHEEL

Made of Best Materials, and in the Best Style of Workmanship.

MACHINE-MOLDED MILL GEARING

From 1 to 20 feet diameter, of any desired face or pitch, moulded by
our own Special Machinery.

SHAFTING, PULLEYS AND HANGERS

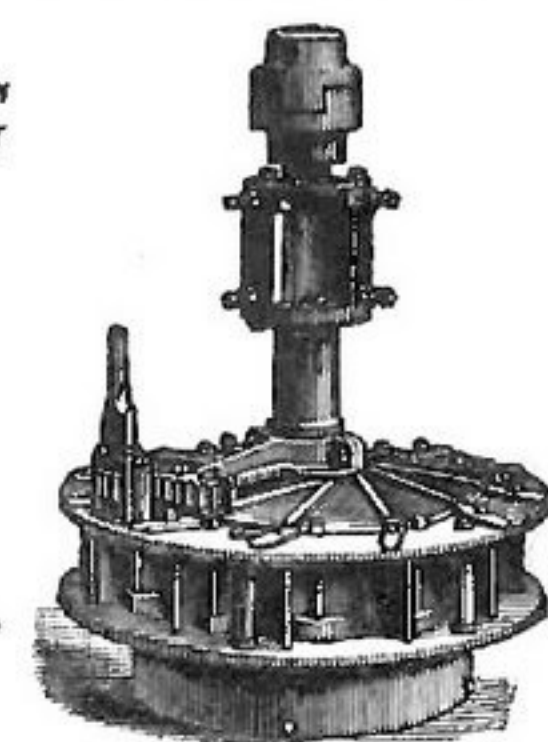
Of the Latest and Most Improved Designs.

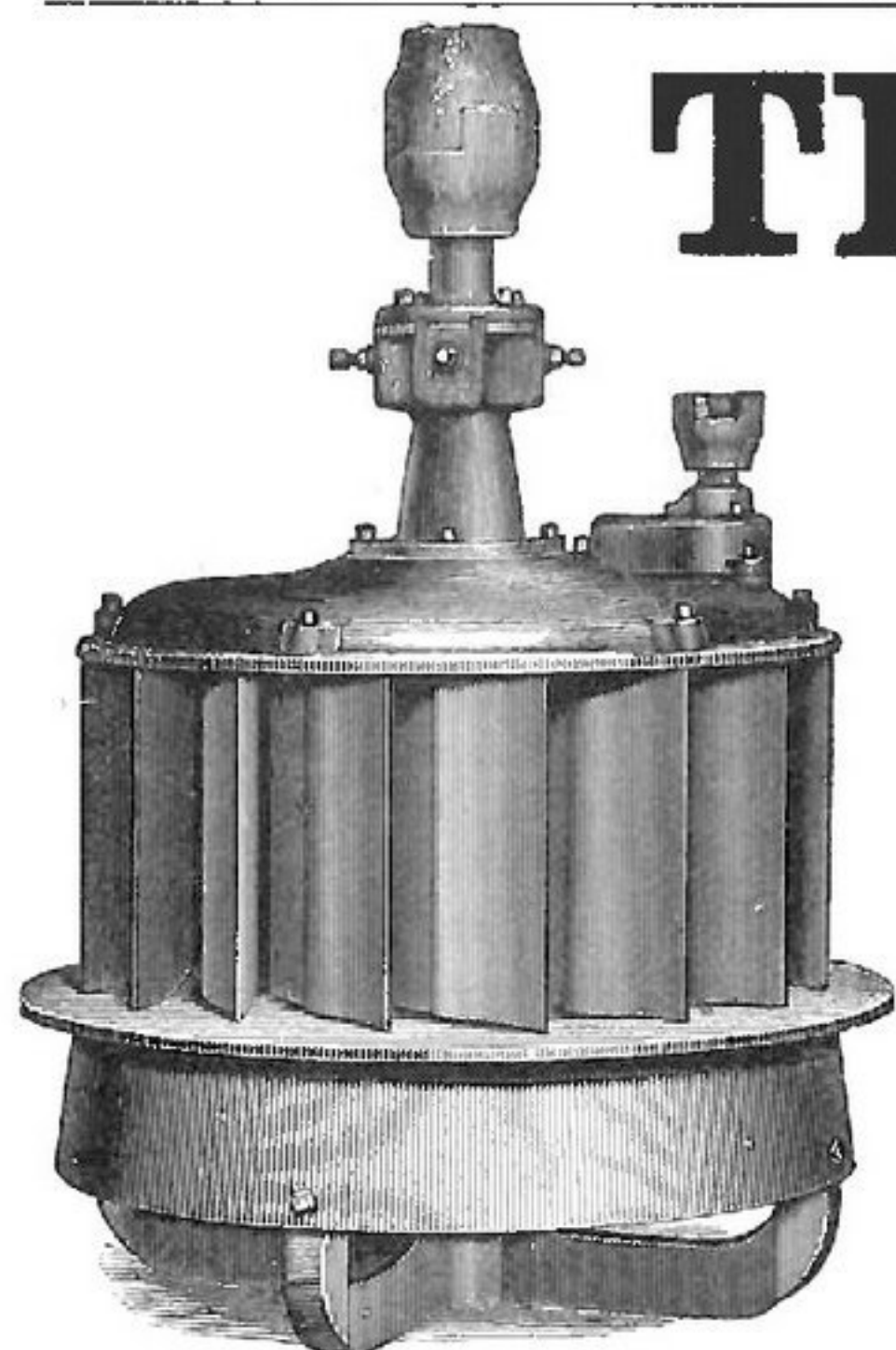
Engines, Boilers,

Mixers and General Outfit for Fertilizer Works.

Special Attention given to Heavy Gearing. Shipping Facilities the
Best in All Directions.

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THE VICTOR TURBINE

Possesses more than Double the Capacity of other Water Wheels of same diameter, and has produced the Best Results on Record, as Shown in the Following Tests at Holyoke Testing Flume:

Size Wheel.	Head in Ft.	Horse Power.	Per Cent Useful Effect
15-inch,	18.06	30.17	.8932
17 1/2 in.,	17.96	36.35	.8930
20-inch,	18.21	49.00	.8532
25-inch,	17.90	68.62	.8584
30-inch,	11.65	52.54	.8676

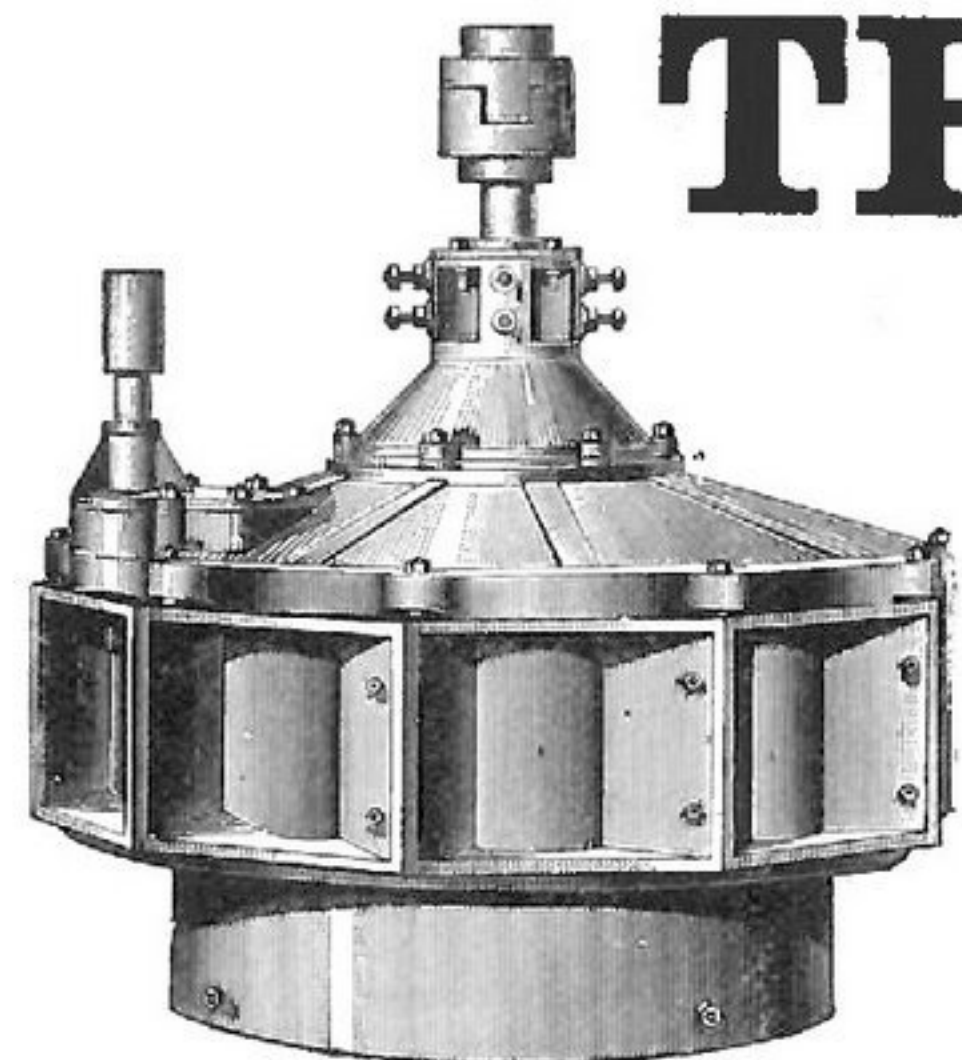
WITH PROPORTIONATELY HIGH EFFICIENCY AT PART-GATE.

Such results, together with its nicely-working gate, and simple, strong and durable construction, should favorably commend it to the attention of ALL discriminating purchasers. These Wheels are of very Superior Workmanship and Finish, and of the Best Material. We also continue to manufacture and sell at very low prices the

ECLIPSE DOUBLE TURBINE,

So long and favorably known. State your requirements, and send for Catalogue to the

STILWELL & BIERCE MANUFACTURING CO.,
DAYTON, OHIO, U. S. A.



THE EUREKA TURBINE

Celebrated as the Best Part-Gate Wheel Ever Built.

Absolutely Unequalled in Efficiency, as Shown by The Accompanying Table.

WE PUBLISH OUR PART-GATE FIGURES.

OTHERS SIGNIFICANTLY OMIT THEM.

No Other Turbine Ever Approached the Above Percentages at Part-Gate. For Catalogue and Information Address,

W. H. BARBER & CO., ENGINEERS AND MACHINISTS, **ALLENTOWN, PA., U. S. A.**

CHEAPEST STEAM PUMP

IN THE WORLD!

THE UNIQUE

Boiler Feeder

Strictly First - Class

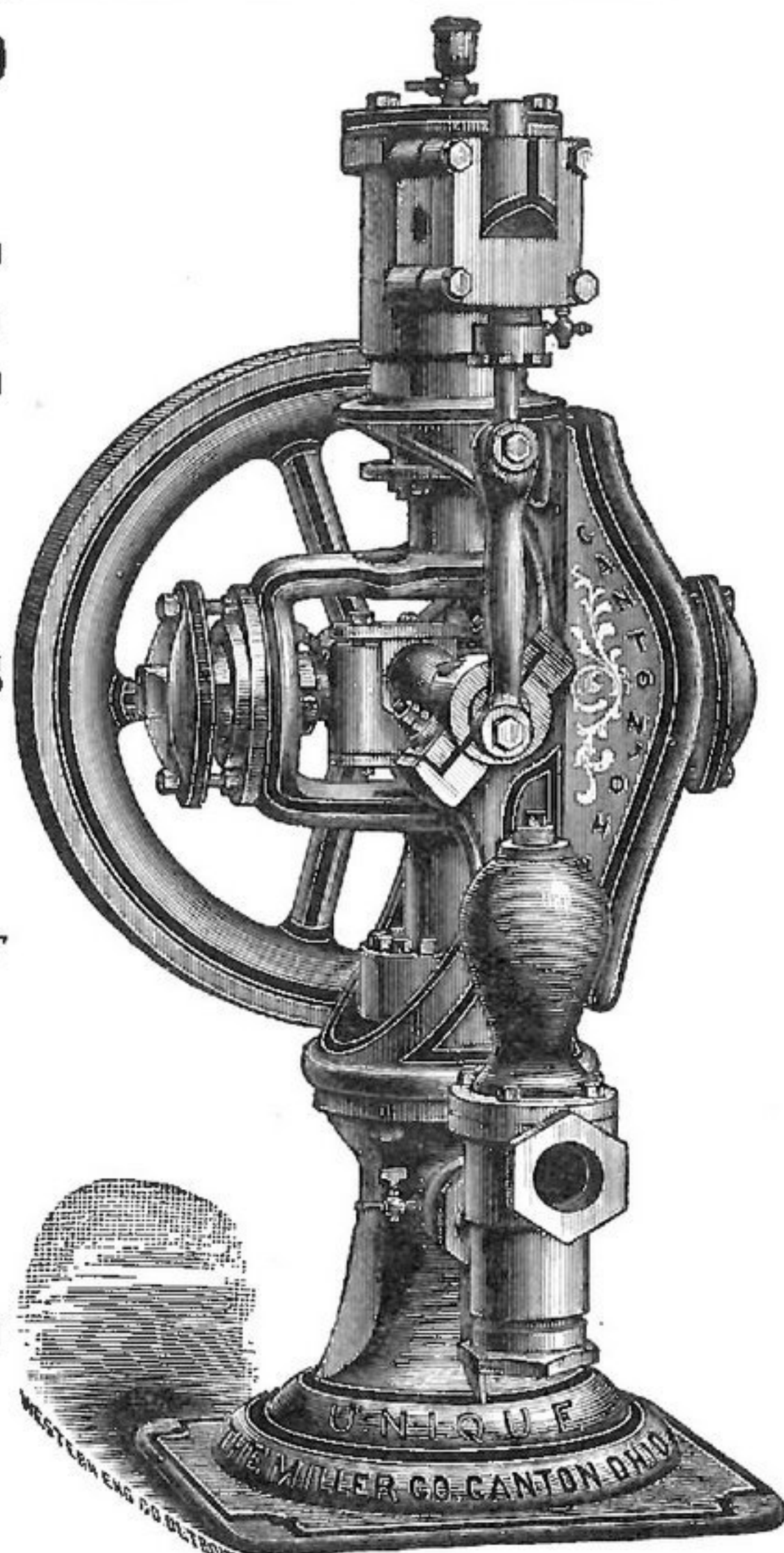
IN EVERY RESPECT.

SEND FOR
NEW AND REDUCED PRICE LIST
FREE ON APPLICATION.

MANUFACTURED BY

The Miller Co.,
CANTON, O.

SATISFACTION GUARANTEED OR NO PAY.



The CUMMER ENGINE

Was awarded the gold medal at the Cincinnati Exposition and a special prize for extraordinary merit, also the highest medal at Louisville for the best Automatic Engine. Send for 150-page catalogue No. 9. Address,

The Cummer Engine Co., Cleveland, O.

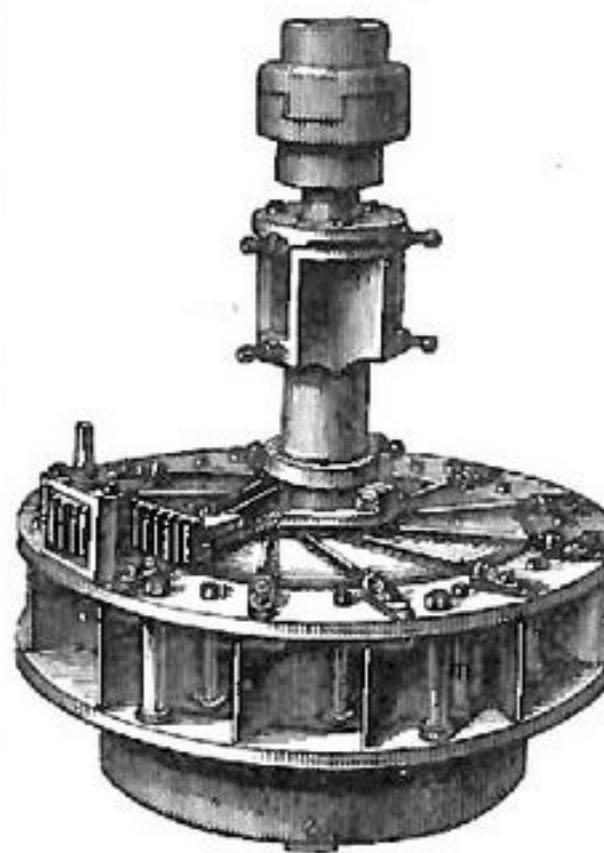
LEFFEL'S WATER WHEEL

MADE BY JAMES LEFFEL & CO.

The "OLD RELIABLE"

with improvements, making it the

MOST PERFECT TURBINE
NOW IN USE.



Comprising the Largest and the Smallest Wheels, under both the Highest and Lowest Heads used in this Country. Our new Illustrated Book sent free to those owning water power.

Those improving water power should not fail to write us for New Prices before buying elsewhere. New Shops and New Machinery are provided for making this wheel. Address

JAMES LEFFEL & CO., SPRINGFIELD, OHIO, AND 110 LIBERTY STREET, N. Y. CITY.

OBENCHAIN'S IMPROVED Little Giant Turbine Water Wheel.

Is the most Practical and Durable Wheel made, and is the Best Partial Gate Wheel on the market.

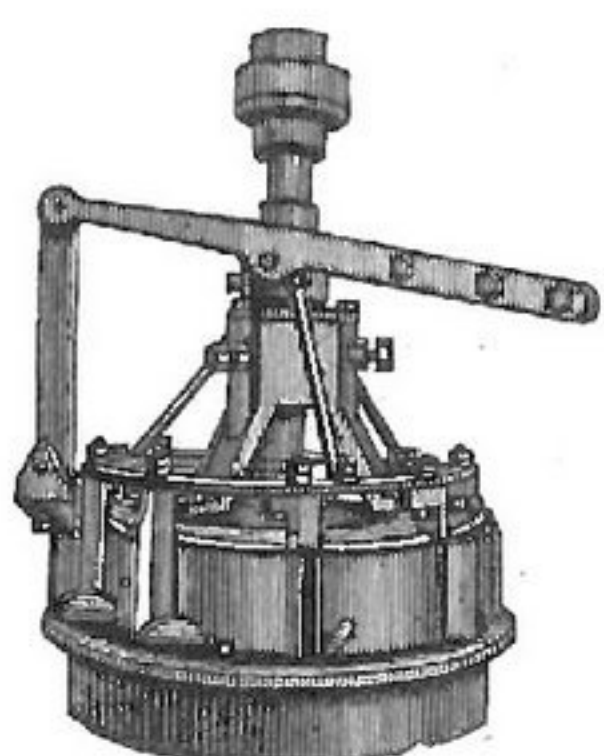
Capacity Increased, and Prices Largely Reduced.

We sell Wheels for less money per Horse Power than any other manufacturer.

SEND FOR NEW ILLUSTRATED WHEEL BOOK.

MANUFACTURED BY

KNOWLTON & DOLAN,
LOGANSPOUT, IND.



Obenchain's Automatic Grinding Mill

Is Self-Regulating, and will continue to grind just as it is set, and the expansion and contraction of the spindle have no effect upon its grinding. It is always in perfect trim when grinding, as it is absolutely a self-trimmer. An obstruction entering this mill, the stones will part just enough to allow it to pass through, and immediately adjust themselves and grind the same as before obstructions entered.

IT WILL GRIND MIDDINGS

as slow as 10 pounds per hour, or as fast as 600, according to speed and pressure given, and cannot be excelled for grinding wheat or corn. We make four sizes of these mills, 14, 20, 25 and 30 inches, all of the best quality of Old Stock French Burrs, set in solid iron frames. Cut No. 1 represents this mill as made to set upon mill floor. Cut No. 2 is our Hanger Mill, and it is intended that hanger and pulley pass down through the husk floor to be driven from any mill spindle or upright shaft. With these mills we make a specialty of constructing New Process custom and merchant mills at a low figure.



Fig. 1.

ILLUSTRATED PAMPHLET, GIVING FULL DESCRIPTION AND PRICE, SENT ON APPLICATION TO

KNOWLTON & DOLAN, SOLE MANUFACTURERS, LOGANSPOUT, IND.

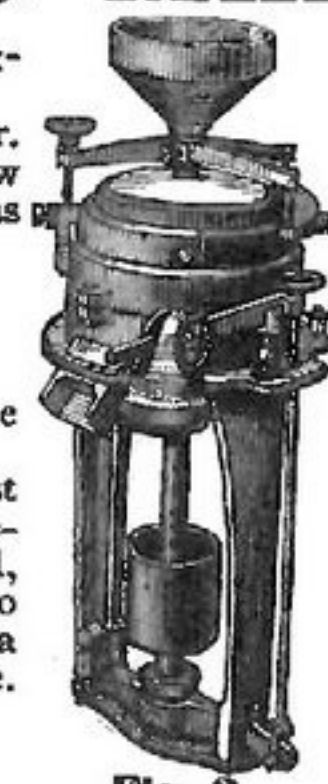


Fig. 2.



Notes from the Mills.

Bathgate, Dak., is to have a flour mill.

Parker & Co., of Fulton, Ky., have sold their mill.

The California wheat crop is said to promise splendidly.

The big mill at Janesville, Minn., shut down for a week or two.

Wheat in Indiana, Illinois, and Ohio, shows better than a year ago.

Grain reports in Oregon and Washington are universally favorable.

Buyers are paying eighty cents per bushel for No. 1 wheat at Red Wing, Minn.

F. M. McFarland & Co., are the successors of Taylor, McFarland & Co., owners of a mill at Fulton, Ky.

Robert Taylor, of Kasson, Minn., had fifty bushels of seed wheat stolen from his farm at Mantorville.

D. C. Morrison, of Sheridan, Oreg., owner of a flour mill, it is reported, has been succeeded by D. C. Coleman.

The flour mills of W. T. Massey, at Lincoln, N. C., have been burned. Loss, \$9,000. Insurance, \$7,000.

A fixture on the boiler at the Alma City, Minn., roller mill blew off one day recently, occasioning a shut down for several days.

Brandon, Minn., has subscribed \$500 towards procuring a grist mill, or rather, a grist and saw mill combined, at that place.

Hardesty Bros., Columbus, O., have ordered a patent automatic feed from the Case Mfg. Co., to be placed on their Downton rolls.

Loga Bros. & Co., of Sheakleyville, Pa., have ordered one pair rolls with patent automatic feed from the Case Mfg. Co., Columbus, O.

W. H. Barber & Co., of Allentown, Pa., have recently filled a large contract with the Lehigh Iron Co., of the same place for hot blast pipes.

Thos. Robinson & Son's (Limited) Rochdale, England have ordered twelve additional sets of rolls from the Case Mfg. Co., Columbus, O.

In France the wheats are said to be looking remarkably well, and spring sowings have been pressed forward under favorable circumstances.

W. H. Barber & Co., of Allentown, Pa., have lately shipped to B. T. Jennings, of News Ferry, Va., a lot of improved machinery for his mill.

James H. Grover, of Princeton Junction, N. J., has recently equipped his mill with machinery built by W. H. Barber & Co., of Allentown, Pa.

Edwin B. Krause, of Palm, Pa., has just put in place a 36 inch improved Eureka turbine built for him by W. H. Barber & Co., of Allentown, Pa.

Hardesty Bros., Columbus, Ohio, have ordered from the Case Mfg. Co., a four roller "Bismarck" frame, placing in it three Stout, Mills & Temple rolls.

The farmers in the section around Winnebago City, Minn., are buying a large quantity of Saskatchewan and Blue stem wheat for seed this spring.

P. T. Frederick, of Listonburg, Pa., has lately received from W. H. Barber & Co., of Allentown, Pa., a quantity of new and improved milling machinery.

Davis & Taylor, of Boston, Mass., flour and grain dealers, have suspended on account of the death of a member of the firm and its financial manager.

W. H. Barber & Co., of Allentown, Pa., have lately shipped to J. D. Burt & Co., of Webb's Mills, N. Y., one of their Improved Barber Segment Bark mills.

A Western agent of the Case Mfg. Co., Columbus, O., recently sold 36 pairs of rolls in one week besides selling other machinery of their manufacture in proportion.

The Miller Co. have received the contract of John Wisener, Barnseville, O., for a full line of Rider break and Miller rolls. The Rider system complete will be used.

The average of the growing wheat in Missouri, is 98 per cent, and improving. The per cent. of wheat now in the hands of producers is 17½, and of corn, twenty-four.

W. H. Barber & Co., of Allentown, Pa., have just filled a contract for a large amount of mill-

ing machinery with P. H. Rancho & Bro., of Kelly's Cross Roads, Pa.

Sleick & Wamsber, of Port Clinton, Pa., have recently purchased from W. H. Barber & Co., of Allentown, Pa., an equipment of the most improved milling machinery.

The Miller Co., Canton, Ohio, have a crew of millwrights at work on W. T. Ross & Co.'s mill, at Dubois, Pa. The Rider system, and breaks and Miller rolls will be used.

Thomas Strauss, of Allentown, Pa., has remodeled his mill, and furnished it with machinery of the latest improvements and patterns from the works of W. H. Barber & Co.

In the last two months the Northwestern mills at Kewaunee, Wis., have and are yet running only eight hours per day, owing to the small demand of flour from outside parties.

The Dayton Leather & Collar Co., of Dayton, Ohio, have lately put into their works one of the Improved Barber Segment Bark mills built by W. H. Barber & Co., of Allentown, Pa.

The Thornton elevator in Benson, Minn., is to be taken down and made into two elevators at points in Dakota. A vast amount of grain has passed through it in the last ten years.

The Case Mfg. Co., Columbus, O., have lately received an order from the Victory Mill Co., Shelbyville, Tenn., for eight pairs of rolls with patent automatic feed and one No. 1 double purifier.

The Miller Co. Canton, O., which we learn is running nights and is full of orders, have received an order from J. W. & E. Grove, Fredricksburg, Pa., for one of their No. 5 combined boiler feeders.

The Case Mfg. Co., Columbus, Ohio, have an order from P. H. McHale, St. Marys, Kan., for one "Little Giant" break machine and scalper making three separations and one No. 1 single purifier.

The prospect is just now discouraging enough for the immediate future of the wheat trade. The last foreign accounts says that in Germany the young wheats are spoken of as affording unusual promise.

W. H. Barber & Co., of Allentown, Pa., have recently shipped to Mr. Geo. W. Engle, of Hazleton, Pa., a 10x24 inch engine and 44x14 feet tubular boiler, together with an entire outfit of milling machinery.

A 36 inch turbine of the same pattern (double) has also been put in the extensive flouring mills of Wm. Younger, of Catsauqua, Pa., by W. H. Barber & Co., of Allentown, Pa., and renders admirable service.

J. J. Scott & Bro., have just put in their extensive mill at Lynchburg, Va., several car loads of cut gearing, machine moulded pulleys, hangers and shafting, built for them by W. H. Barber & Co., of Allentown, Pa.

Gabel, Bertollette & Co., of Pottstown, Pa., in enlarging their mill recently furnished it with the superior cut gearing, shafting, pulleys and hangers, of which W. H. Barber & Co., of Allentown, Pa., make a specialty.

What were known as the old Parsons mills were burned on the night of April 6, at Parsons, Kan. The mills cost \$20,000, but have been idle for some time, and the actual loss will be about \$10,000; insured for \$8,000.

The Miller Co., Canton, Ohio, have received notice by mail, that they have been awarded the contract of Kellogg & Co., of Springfield, N. Y., to change their mill to the Rider system. Rider breaks and Miller rolls will be used.

Hardesty Bros., 300 barrel mill at Canal Dover, Ohio, will start up next week on the Rider system. Rider breaks, etc., will be used. This mill is under contract by the Miller Co., manufacturers of Rider breaks and miller rolls.

Stratton, Stanton & Co.'s mill at Flushing, Ohio, have started up on the Rider system, and the best of results are reported. Rider breaks and Miller rolls are used. This mill is under contract by the Miller Co., Canton, Ohio.

The extensive rolling mill of J. Wood & Bro., of Conshohocken, Pa., has been rebuilt and enlarged, power is furnished by two high 54 inch improved Eureka turbine, built expressly for the place by W. H. Barber & Co., of Allentown, Pa.

The mill at Waterville, Minn., has shut down a short time for repairs. The local paper says: There is no better flour made than is made at this mill, and it is an excellent thing for the town, for we have never had a first-class flouring mill until this one was erected.

Our readers will observe that Messrs. W. H. Barber & Co., of Allentown, Pa., are now the sole manufacturers of the A. N. Wolf roller mill, which has been so long advertised in our columns, and in making inquiries concerning it will address their letters accordingly.

W. H. Barber & Co., of Allentown, Pa., have lately furnished to Foster Bros., of Honesdale, Pa., a 48 inch Improved Eureka Turbine to drive a large planing mill erected by that firm. They also furnished a large bill of shafting, pulleys, gearing, and hangers for the same establishment.

The putting in of the rollers in the mill at Menomonee Falls, Wis., is just under way. The rollers are there, and only wait the putting in place. Lepper & Schlafer are bound to keep up with the times, as they put in all new improvements as soon as they are tested and found to be good.

A report made to Congress on the 2d by Statistician Dodge, of the Agricultural Department, showed that the stock of wheat on hand was 119,000,000 bushels, of which 4,500,000 bushels were in Illinois, 9,500,000 bushels in Iowa, 7,500,000 bushels in Wisconsin and 13,500,000 bushels in Minnesota.

P. L. Shultz, of Lewisburg, Pa., having for many years used the Eureka turbine, would have no other, when purchasing an additional wheel, and accordingly ordered a 30 inch of W. H. Barber & Co., Allentown, Pa. It was recently set by J. W. Bell, the well known milling engineer, and gives complete satisfaction.

It is said that in Cache valley, Utah, there are 250,000 bushels of grain, surplus of last year's crops, stored in the bins, without a market. The railways have cut off their market in Idaho and Montana by carrying Nebraska grains to supply the demand, at such prices that the Cache valley farmers, with freight rates against them, cannot compete.

J. C. Haust, miller for Jno. Bidwell, of Chico, Cal., in a recent letter to the Case Mfg. Co., says: "We have been running the 'Little Giant' break machine and scalper nearly two years making the first break for 150 bbls. of flour per day (24 hours,) and it has never cost five cents for repairs, and I don't believe there is any other machine that makes a better break."

The farmers throughout Otter Tail county, Minn., are rushing the seed in with all haste possible. There never was a more favorable spring, as the snow has gone off gradually, and there have been no heavy rains to make soil too muddy, although it is plenty moist enough to work to advantage. The acreage in Otter Tail county will be considerably more than last year.

W. H. Barber & Co., of Allentown, Pa., have recently perfected a double turbine expressly designed to utilize variable streams of water. A 48 inch wheel of this pattern lately put in for H. S. Snovely, of Lancaster Junction, Pa., exceeds the expectations placed upon it. Mr. Snovely in times of low water uses it to assist his steam engine, and says he can clear the price of the wheel in one year in the saving of fuel alone.

The committee of Morehead farmers report that they deem it inadvisable to undertake the expense of building an elevator at Duluth, Minn., as the facilities there are at present ample. They also take a pessimistic view of the future, and assert that there is little use of entertaining the idea of an open market. The only way, they say, is for the farmers to organize and secure for themselves a thorough system of free elevators.

A destructive fire occurred at Hampton, Iowa, Saturday afternoon, April 5. The elevator owned by William Beed, with contents, consisting of four thousand bushels of wheat, and six thousand bushels of oats, were totally destroyed. Loss, \$11,000. The steam grist mill belonging to S. M. Alderson & Co., was also burned. Loss, about \$9,000. Insurance on both buildings, but the amount is not known. The cause of the fire can not be ascertained.

A fine piece of hydraulic engineering has lately been completed at Mill City, Pa. The water wheel drives J. K. Hublers mill has the unusual fall of 80 feet. W. H. Barber & Co., of Allentown, Pa., contracted to run Mr. Hublers entire mill by a nine inch improved Eureka turbine. They built it of brass, with brass gates, all of extra strength to stand the pressure of the very high head, and enclosed it in a globe flume of special design. It now does its work satisfactorily using about one half the quantity of water heretofore consumed by the 12 inch turbine that was displaced.

Pillsbury & Hulbert's large grain elevator at Long Prairie, Minn., was burned at midnight April 9. Origin of the fire unknown. There was 5,000 bushels of wheat in the building, all of which was lost. The elevator was built in the fall of 1882, and cost about \$8,000. It was fully insured. Three empty box cars belonging to the Manitoba company were burned. The wind was in the west, and the railroad depot narrowly escaped. Everything was removed from the depot and warehouse. The elevator company was talking of tearing down this elevator and removing it to Dakota this spring, and was shipping the wheat

as fast as cars could be obtained for transportation. Nineteen cars had already been taken out of here this week, and several stand upon the track now for shipment. W. B. Hatton, its local agent, states that the machinery had not been in motion since 11 o'clock a. m. the day before, and there was no fire in the building. The telegraph wire was cut and operation suspended. Parties are at work closing up the wreck, and a wire is up on temporary poles. A large pile of the wheat is seemingly unharmed.

The development of wheat culture in America has been decidedly progressive since 1868, as the following exhibit, which also embraces our annual exports during that period, shows:

	Wheat crop.	Exports.
1868	224,000,000	26,632,014
1869	260,000,000	19,717,201
1870	235,000,000	53,930,780
1871	230,000,000	52,580,111
1872	250,000,000	38,985,755
1873	281,000,000	52,014,715
1874	308,000,000	91,510,898
1875	291,000,000	72,912,817
1876	289,000,000	74,750,632
1877	365,000,000	57,043,936
1878	420,000,000	92,241,626
1879	449,000,000	150,502,506
1880	498,000,000	180,304,480
1881	380,000,000	186,321,514
1882	510,000,000	121,822,389
1883	420,000,000	147,811,316

The extraordinary exports of 1879, 1880, 1881, and 1882 were due to deficient harvests in France and in England, and partially to unsatisfactory crop results in Russia.

IN CANADA.

J. S. Betzner, miller, Harrington, Ont., has sold out to Wm. Hill.

Brown's new grist mill at Gladstone, Man., is expected to start soon.

James Halg, miller at Woodford, Ont., has removed to Dundalk Station.

Plewes & Snider, millers, Hamilton, Ont., have sold out to Wm. Fitzgerald.

The estate of Johnston & Hamilton, millers, Wingham, Ont., is being closed up.

The Amherstburg, Ont., flour mill has shut down while \$5,000 worth of new machinery is being put in.

Buckhorn, Ont., is to have another mill. A responsible party has offered to build a good flouring mill, with three run of stones, for a bonus of \$200 cash and timber and stone for frame and foundation. The bonus is nearly all subscribed.

Connell & Comber now have their new mill at Selkirk, Man., in complete running order. It contains two run of stones, a smut machine, middlings purifier, double bolting chest, etc., and is capable at present of turning out sixty bags of flour a day. The engine is 25 horse power.

Messrs. A. Campbell & Co., of Chatham, Ont., have their new flouring mill almost completed. All the latest improvements in the way of making the best flour have been adopted. The Geo. T. Smith Co., of Stratford, have the contract for the rolls, purifiers, &c. This will be one of the finest mills in Canada.

The Neepawa, (Man.) Canadian gives an interesting account of the grist mills of Davidson & Hamilton, of that town. It expresses astonishment at seeing such a large amount of flour on the premises, there being over 1,500 sacks. The mill is supplied with three run of stone, a purifier, cockle cleaner and all the latest improvements, and the flour manufactured is second to none in the Province. The engine used is a 45-horse power, and consumes five and a-half cords of wood every twenty-four hours. The mill runs night and day, and even then scarcely time can be found to grind toll grists so great is the demand for the flour.

The Mill Furnishing Trade.

THE MILLER CO., Canton, Ohio, have received orders for their boiler feeders, outside of their regular customers, from the following parties: W. S. Dangler, Ottawa, Ohio; Henry Wilch, Drake, Mo.; R. Binder, Battle Creek, Mich.; Anson, Aldred & Son, Fort Howard, Wis.; J. B. Swanton, Dacatur, Ga.; J. A. McCormick, Pittsburgh, Pa.; Mills & Franz, Mansfield, Ohio; Bertells & Stoll, Lexington, Ill.; Fremont Milling Co., Fremont, Neb.; H. D. Coleman & Bros., New Orleans, La.; Hanaka Iron Fence Co., Springfield, Ohio; A. Brown, Winchester, Ind.; E. W. Bennett, Mechanicsburg, Ill.; H. R. Lyle, San Mateo, Florida; D. B. Anderson, Anderson, Ind.; P. J. Rhautz, Orrville, Ohio; W. Hulman, Evansville, Ill.; L. Spence, Martins Ferry, Ohio; and 123 boiler feeders to regular dealers.



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GRAY'S PATENT

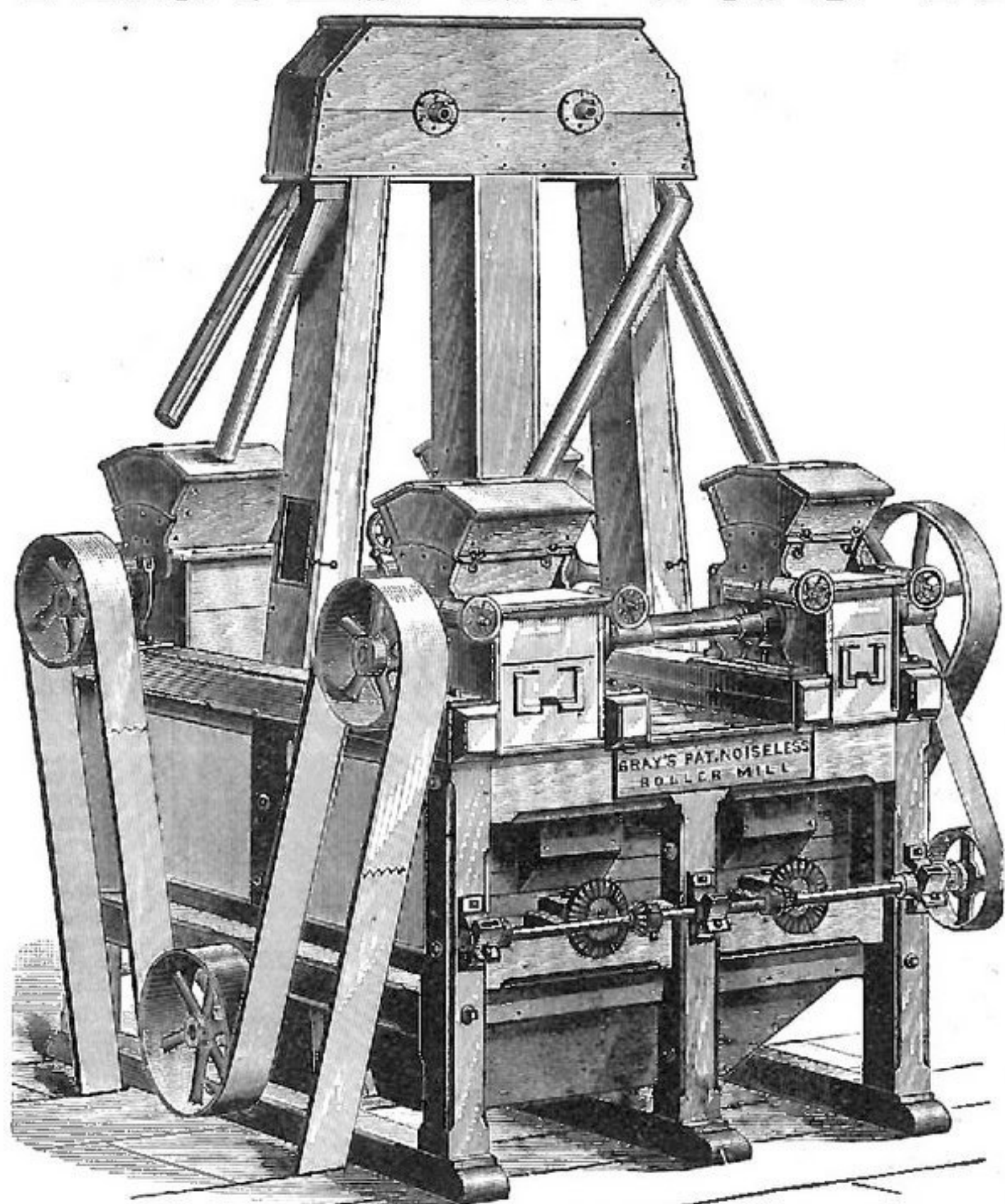
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REDUCTION MACHINES,

FOR SMALL MILLS

*Economizes Room,
Takes Less Power,
Saves Millwright Labor.*

Send for Circulars and Prices to

EDW. P. ALLIS & CO.**RELIANCE WORKS,****Milwaukee, Wis.**

A tool for Cutting, Leveling and Polishing the Furrows and Face of Millstones.

Eight inches long, 2½ inches wide, 1½ inches thick. Received the highest and only Award given to Polishers at the Millers' Exhibition, Cincinnati, Ohio, June, 1880.

For facing down high places on the buhr, this tool has no equal, and can be done much better and in one-sixth the time than with the mill pick. It is much larger, cuts better, can be used on either face or furrow; can be used until the corundum is entirely worn out on one side and then turned on the other side. Has over four times the amount of corundum and when the corundum is worn out can be replaced in the handle at a small cost. Sent by express, \$3.50. Satisfaction guaranteed, or money refunded. Address

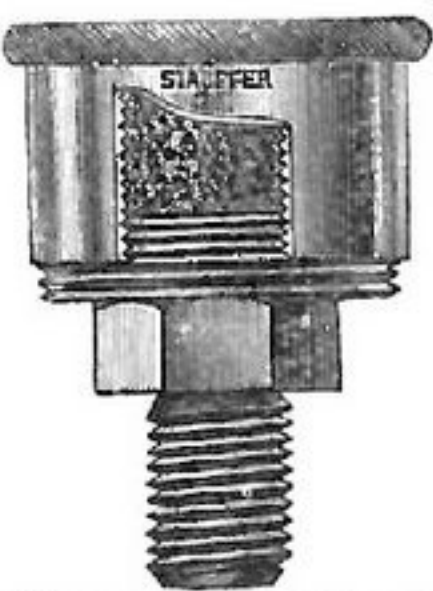
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A DECIDED IMPROVEMENT OVER ANY ROLLS WE HAVE SEEN.

Lancaster, Pa., Aug. 31, 1883.

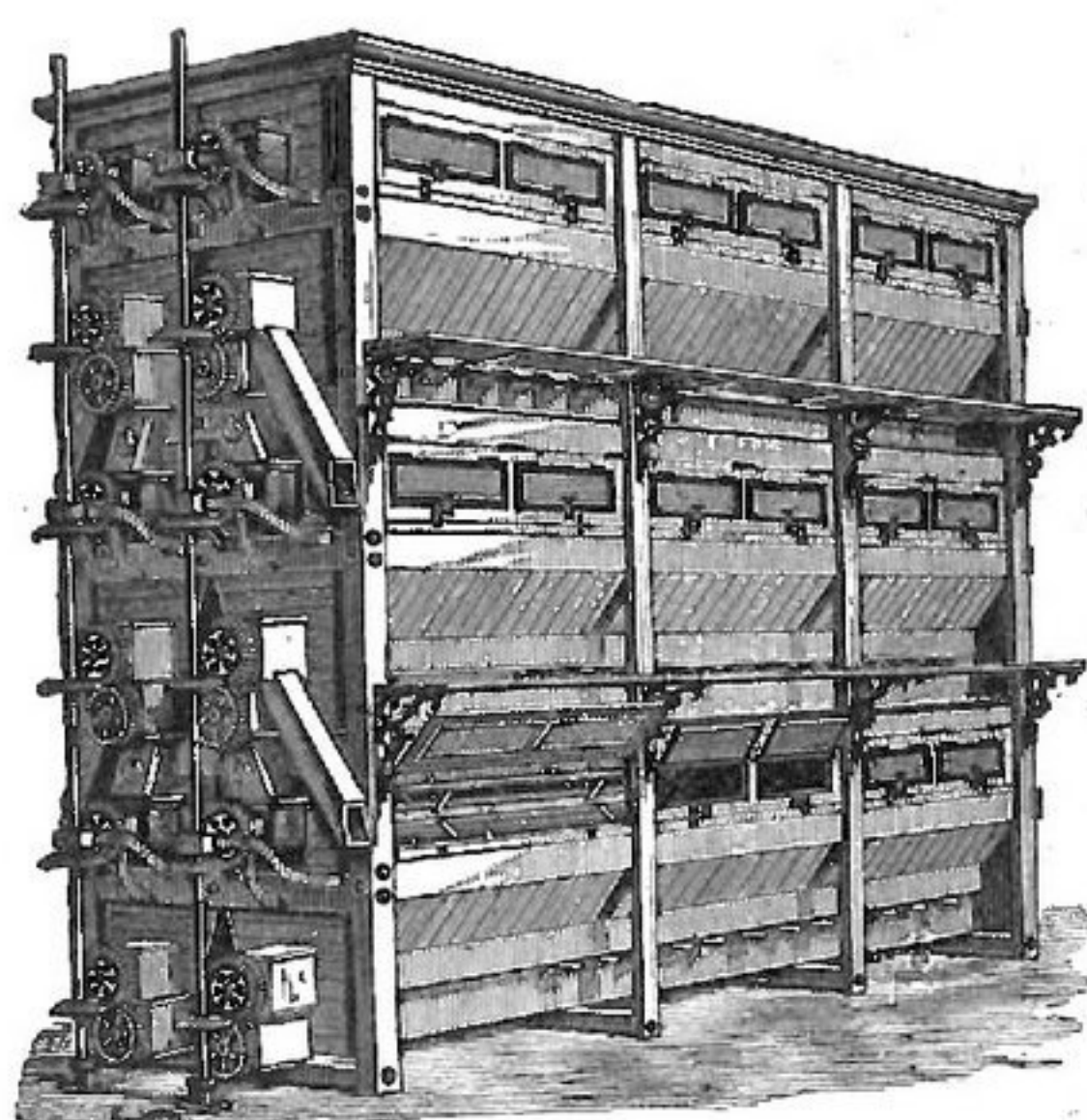
Messrs. Griscom & Co. & McFeely, Philadelphia.

GENTLEMEN: We have now been running your double Roller Mill about 30 days, and it works to our entire satisfaction. The adjusting device by which both ends of the rolls are adjusted at the same time is a decided improvement over any rolls we have seen, as it guarantees uniform work, and the journals being always in line, keeps them running cool. Our bran is well cleaned as you will see by sample sent you. Yours truly, LEVAN & SON.

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Manufacturers Butler Roller Mills, 110 South 4th Street, Philadelphia, Pa.



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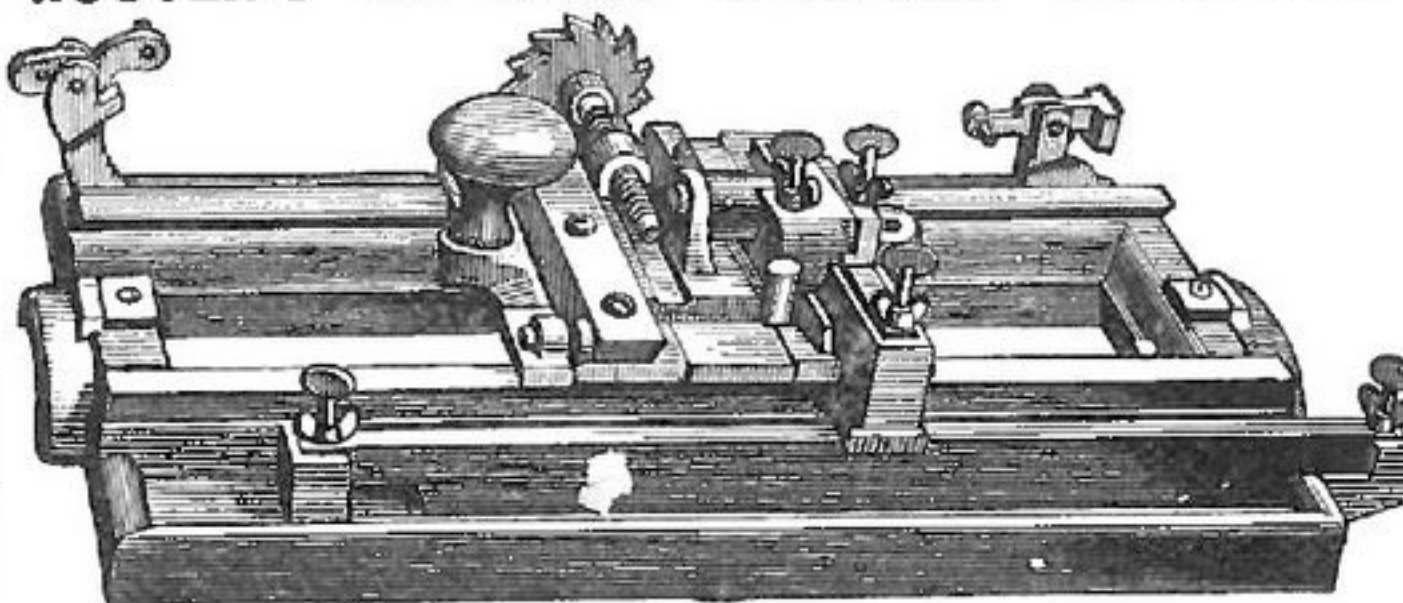
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ALL KINDS MILL SUPPLIES**Richmond, Indiana.**

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HOOVER'S IMPROVED DIAMOND MILLSTONE DRESSING MACHINE.

ADAPTED TO ALL KINDS OF DRESSING.



No 1, for facing and cracking, \$25.00

No 2, with furrow attachments, specially adapted for small or large stones, \$40.00

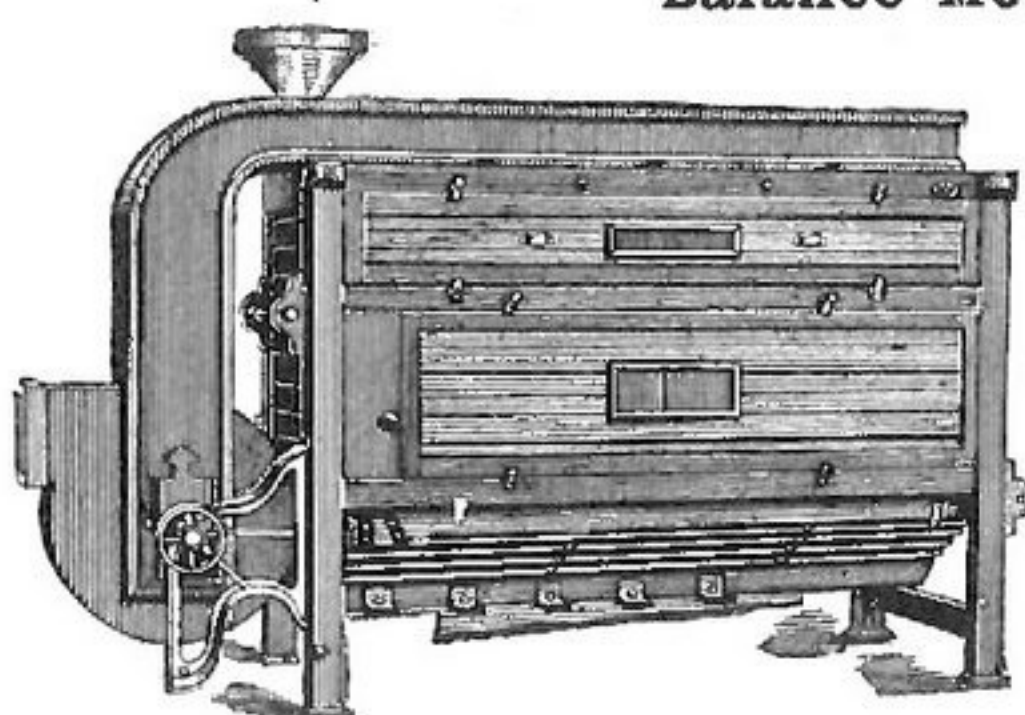
No 3, with furrow attachment, \$40.00

Will do as good work, and is more easily adjusted than any other machine. Sent on 30 days' trial. Address for circulars, containing full information.

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WOLF & HAMAKER'S LATEST IMPROVED MIDDLINGS PURIFIER AND DUST CATCHER

The Only Machine with Two Sieves, for Fine and Coarse Middlings. The Only Machine with Balance Motion, Consequently no Jarring or Shaking.



ADAPTED to all styles of milling, high or low grinding, as fine or coarse middlings can be treated separately on one machine. Economy in space, as the machine is a double one. A perfect cloth-cleaning device. No brushing or wearing of cloth. Licensed Under All Conflicting Patents. We are the Agents for the E. P. Allis Roller Mills, and Mill Builders and Contractors. We are at all times prepared to furnish plans and estimates, and to contract for the erection of first-class mills of any desired capacity from 50 to 500 barrels. Parties contemplating Roller Mills or remodeling old mills will find it to their interest to write for Prices and Terms. **Wolf & Hamaker's Latest Improved Bolting Chest.** Also Mill Furnishings of Every Description.

OUR DUST CATCHER IS GIVING THE BEST OF SATISFACTION, AND OUR PRICES ARE SUCH THAT EVERY MILLER SHOULD HAVE THEM.

WOLF & HAMAKER, ALLENTOWN, PA.

ON VIEW AT PERMANENT EXHIBITION OF MILL MACHINERY, 36 BROADWAY, NEW YORK.





THE INDUSTRIAL CRISIS IN FRANCE.

A correspondent to *Bradstreet's* gives the following description of the situation: The parliamentary committee, appointed to inquire into the causes of the decline of French industry, now proposes to hear the representatives of the agricultural communities from which a veritable wail of anguish has been going up for the last three years. This agricultural inquest will doubtless be of rare interest to the wheat-growers of the United States, for the French tillers of the soil will demand little less than an absolute prohibition of American articles of consumption. They are thoroughly aroused against the American producer. They see that he has advantages over them at every turn; that his land is cheaper, and his railway freights do not amount to more than one-third of those which they are obliged to pay, and that these more than over-balance the high wages which he has to give his laborers; that the transportation of a ton of wheat across the Atlantic, from New York or New Orleans to Havre or Marseilles, costs less than to send the same quantity from Havre to Paris by rail; and that virgin soil can naturally bring forth more abundant and cheaper crops than those raised on half worn-out lands which must be continually fertilized at enormous expense. The farmers are anxious for the inquiry to begin, for they are convinced, poor innocent souls, that a practical and immediate remedy for their distress will be evolved from it. The ministry is interested to have remedies—if any there be—prepared at the earliest possible minute. In the department of the Aisne, for instance, there is just now a serious crisis in the farming industry, and a special committee has been sent thither by the Minister of Agriculture to take testimony. The politicians are wise enough to know that when the farmers begin to grumble the government is in danger.

NOTES.

Crop reports from foreign wheat-growing countries are generally favorable.

A company for the introduction of gaseous fuel has recently been organized in Berlin, Germany.

The dividend of the roller milling establishment at Stettin, Germany, for the past fiscal year after providing for a reserve fund, and improvements in building and machinery, amounted to 26 2/3 per cent.

Extended railway projects were on foot in Russia, which would open up very large tracts of land to agriculture. The capital required, however, is so enormous—1,000,000,000 roubles for one enterprise alone—that the outlook for the scheme is problematical.

It is found more profitable to bring eggs from Vienna, in Austria, to the Paris markets than to get them from the south of France. The reason for this is that the international freight tariffs are vastly more reasonable than those in operation within France.

Navigation at Nicolaieff, Russia, is open, and the inland rivers are now mostly free of ice, so that grain supplies are expected to be now more regular at both Odessa and Nicolaieff. According to last postal accounts, however, business was almost at a stand still at both ports.

The Vienna correspondent of the *London Economist* writes that both in Germany and Austria there is a growing prejudice against commission agents who, the people think, make goods more expensive. A movement has arisen the object of which is to do away with the profits of the middleman and to bring about direct sales of goods.

The farming population of Bavaria is dissatisfied with the present grain tariff, and have petitioned their government to increase the present rates one hundred per cent. The movement is especially designed to check the importation of

Hungarian flour and wheat, which has gained additional transportation facilities since the completion of the Arlberg tunnel. This would virtually close one of the principal markets to the Hungarian millers, a market where their produce has always found a ready sale.

The unprogressive spirit of English law is well illustrated by recent complaints as to the oppressive rating of machinery for taxation. According to a law passed in the days of good Queen Bess, machinery is liable for heavy taxes for the support of the poor, probably on the old notion that machinery deprived laborers of work. In some districts of England this tax has become so heavy on some manufacturers that they are hardly able to carry the burden, and are calling out for relief in the way of equalized taxation.

From 30,000 Austrian mills only one per cent. are represented in the Austrian Millers' Association, says the *Mueller Zeitung*. The German Millers' Association with its 300 members represents at least 15 per cent. of the mills; the statistics of the English and American miller associations are not easily available to us, but when we remember their crowded meetings, we consider ourselves justified to accept at least 25 per cent of their mills as represented in their associations. Such reflections have a depressing influence. Is it so difficult to comprehend that great results can be obtained only by the combined action of many, or are our Austrian millers so well situated that they do not feel the necessity of advancing their interests?

The Irish operative millers we know to be patriotic, says the *Millers' Gazette*, but they are also a very energetic body of men, and the influx of foreign made flour into Ireland (although compared to England and Scotland the competition thus created is not very formidable) has moved them to decisive action. Their proceedings in this respect at a meeting held recently in Dublin, are well worth considering, and although we have an old-fashioned English prejudice against "boycotting" in any shape, as not likely to lead to permanent good, we consider their action in trying to create a national prejudice in favor of home made flour to be highly creditable to all concerned. If Californian or any American made flour, however, is to be had cheaper than home made of equal quality, all the "boycotting" in the world will do no lasting good. Let the prices be equal, or nearly so and then such meetings as those lately held are calculated to do much good.

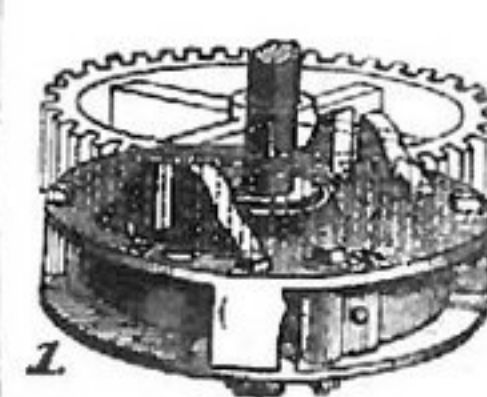
Quite a new departure in milling journalism is furnished by the last issue of *Le Moulinier* (The Miller), published in Paris. In describing a new millstone balance a sample of bran stuck on a piece of cardboard is given, showing how broad and clean the bran can be made by adopting this particular balance, which is a fixed one. We may add that *Le Moulinier* has been in existence about five years, but has not appeared regularly; now, however, since, as it says, French millers are threatened with an invasion of new foreign machinery, and as a veritable crisis is being passed through, it proposes to struggle against the invasion of these foreign systems of milling, and offers its columns to the discussion of the subject from both sides. It opens the campaign with a rather vigorous onslaught on the recent milling experiments in France, and considers the results as at present published, to be unreliable and absurd.

The *Daily Telegraph*, London, counsels Manitobian farmers not to grow wheat for Europe, but rather other crops less unremunerative than wheat. Present low rates for wheat in England, says the *Daily Telegraph*, will be permanent, and as there is little likelihood of money being found to construct a railway between Winnipeg and Hudson's Bay (by which means the cost of transport to Europe would be so much lessened) Manitoba wheat cannot compete in England with European and Indian wheats. There is considerable truth in the latter remark says an English milling journal, but it would be unwise, not to say fallacious, to suppose that the present low price of wheat in Europe, and therefore in the world, will be the nominal price hereafter; probably not one in a hundred engaged in the trade have this opinion, in spite of the growing tendency of the world's supply to overlap the demand. A season or two with low prices like those now ruling would soon diminish the general production of the article.

The marvelous development of Antwerp during the past ten years is partly due to its position as the embarking point from the continent of Europe to America, and partly also to the recent additions and changes which have been carried out there, and which, now nearly entirely completed, have made this cosmopolitan port one of the best organized in the world. During the course of last year 4,379 vessels entered the port gauging a total of 3,734,438 tons, which places it at the head of European ports. In 1882 the tonnage of Havre was only 2,200,000, that of Genoa

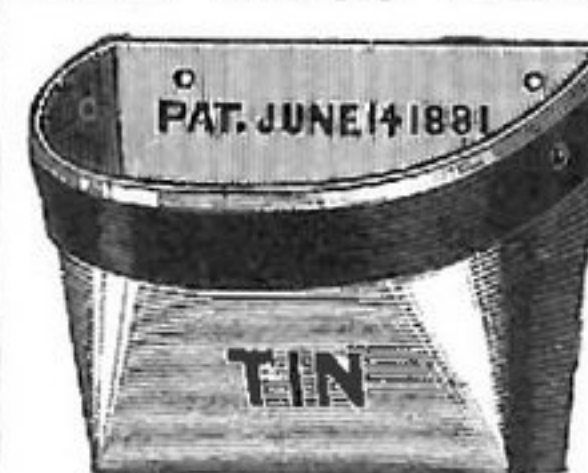
2,550,000, and of Bilbao 315,000 owing to its iron ore exports. Among the English ports a few only exceed Antwerp. London is still the first port in the world, with a tonnage of 10,421,000 tons, and Liverpool the second, with 7,351,000 tons; Newcastle follows with 6,000,000 tons, also in excess of Antwerp, but both Hull and Glasgow are below, with respectively 1,875,000 and 2,110,000 tons. The following table gives the tonnage that entered the different important European ports in 1876 and 1882:

	No. of Vessels.	Tonnage 1876.	Tonnage 1882.
London, -	11,601	5,200,000	10,421,000
Liverpool, -	5,381	4,332,000	7,414,000
Antwerp, -	4,550	2,221,000	3,425,000
Hamburg, -	5,260	2,182,000	...
Marseilles, -	5,345	2,044,000	...
Hull, -	3,469	1,512,000	1,875,000
Havre, -	2,922	1,428,000	2,206,000
Rotterdam, -	3,443	1,383,000	...
Cardiff, -	3,017	1,116,000	...
Southampton, -	1,830	744,000	...
Bordeaux, -	1,677	719,000	1,007,000
Bremen, -	2,046	612,000	...
Glasgow, -	825	547,000	2,110,000
Amsterdam, -	2,171	386,000	...

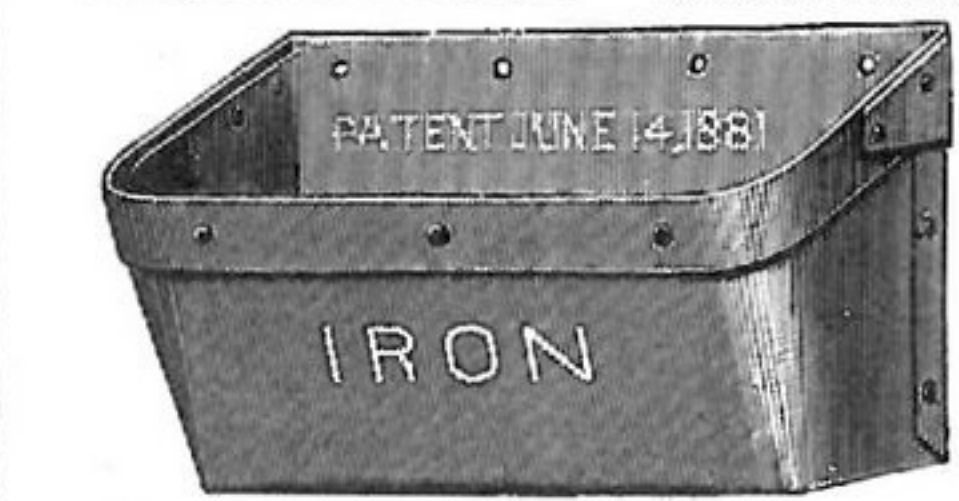


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Warranted to Prevent Backlash. Over 1,000 in use. Equilibrium Driving Pulley Prevents Side Pull on Mill Spindle.
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PITTSBURGH, PENN.

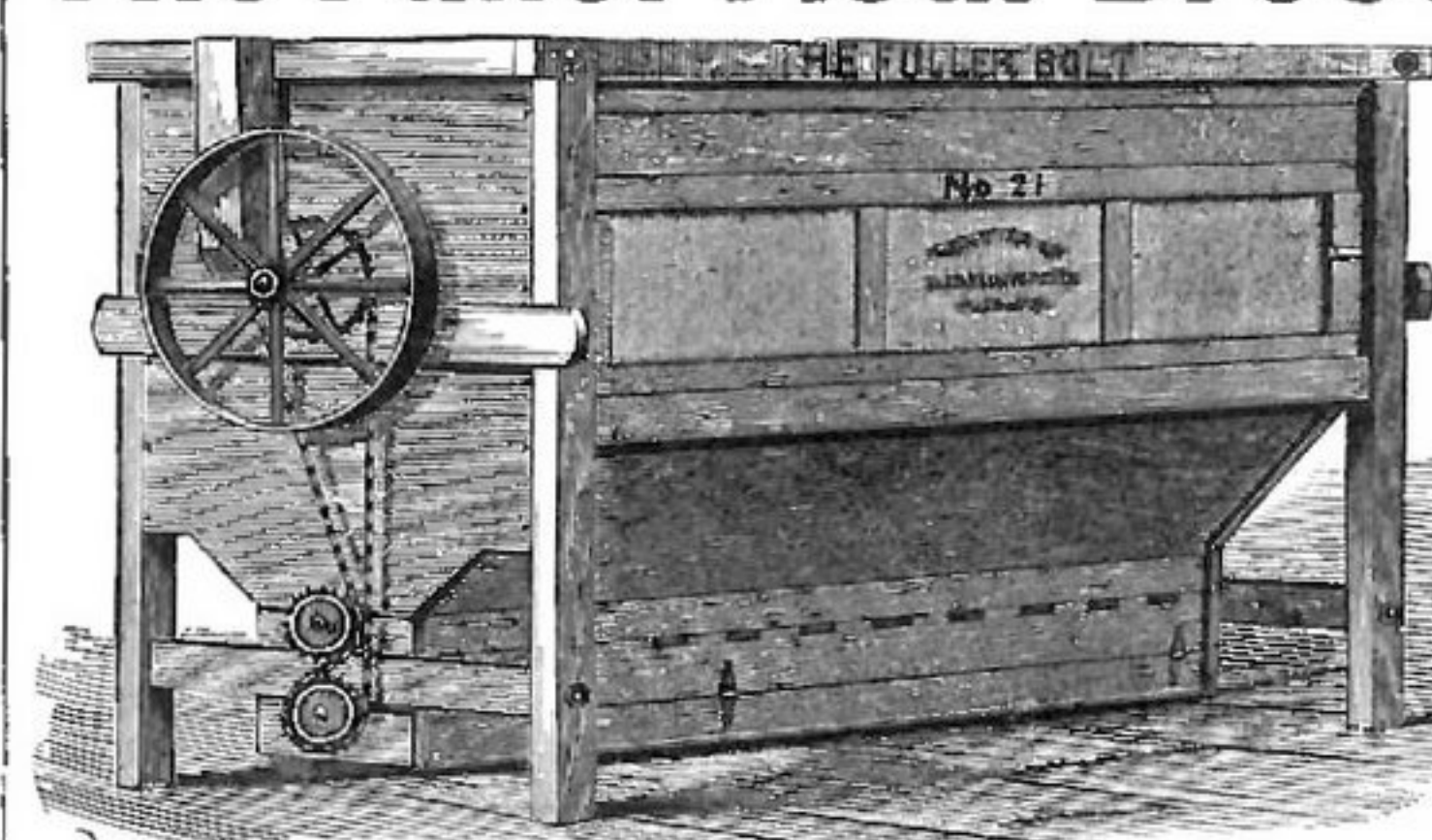
THE BOSS ELEVATOR CUP



is gaining favor every day. Over 13,000 sold in one day in three different States. My capacity in my new shops is 6,000 per week. I carry 80,000 cups in stock and can take care of any size order.
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The Fuller Flour Dresser & Bolt



(Patented.)

WM. F. MORSE, - LAFAYETTE, IND.

Sole manufacturer of the Fuller Bolt and the Eagle Middlings Purifier.

This Bolt will clean fine middlings and soft, specky returns better than any known device. It will do better and cleaner work, will last three times as long, cost three-fourths less to run, take three-fourths less power, and require less attention than any centrifugal bolt made. While the speed of the Fuller Bolt is only 14 revolutions per minute, the capacity is more than double that of the old style reel. Send for Illustrated Catalogue, Price List, etc.

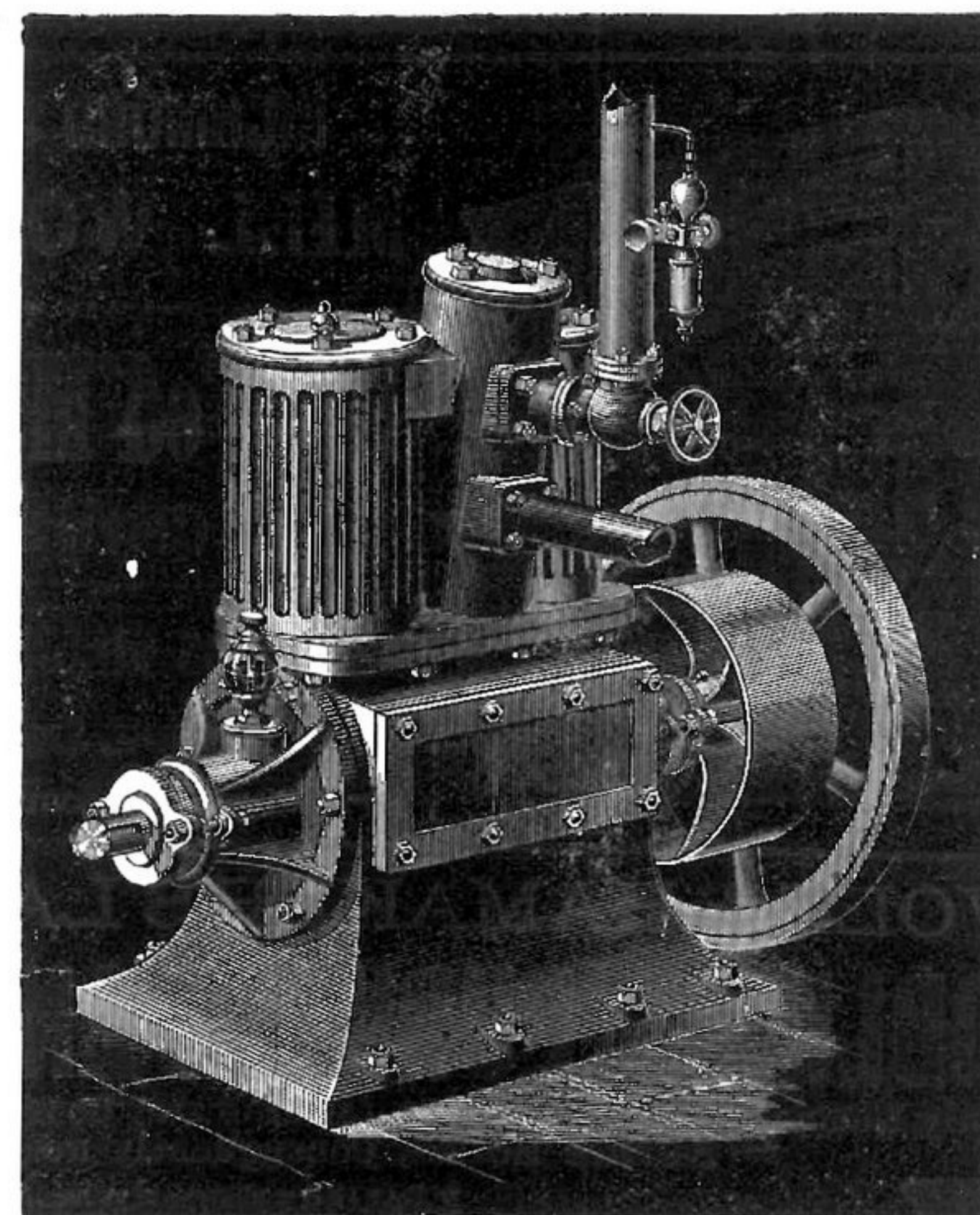
The Westinghouse Automatic Engine

REAR VIEW, WITH ONE FLY WHEEL REMOVED.

Over 600 Engines Now in Use.

Average Sales, 1600 H. P. Per Month.

The Westinghouse Automatic Engine has no equal in Sensitivity and Close Regulation, Low Cost of Maintenance, and General Convenience, and in all other essential features of a First-Class Engine it is guaranteed to have no Superior. Occupies the Least Space, and saves Half the Cost of Foundations. All Sizes Built Strictly to Gauge, and Parts Interchangeable. Every Engine Tested to Full Power Before Leaving the Shop.



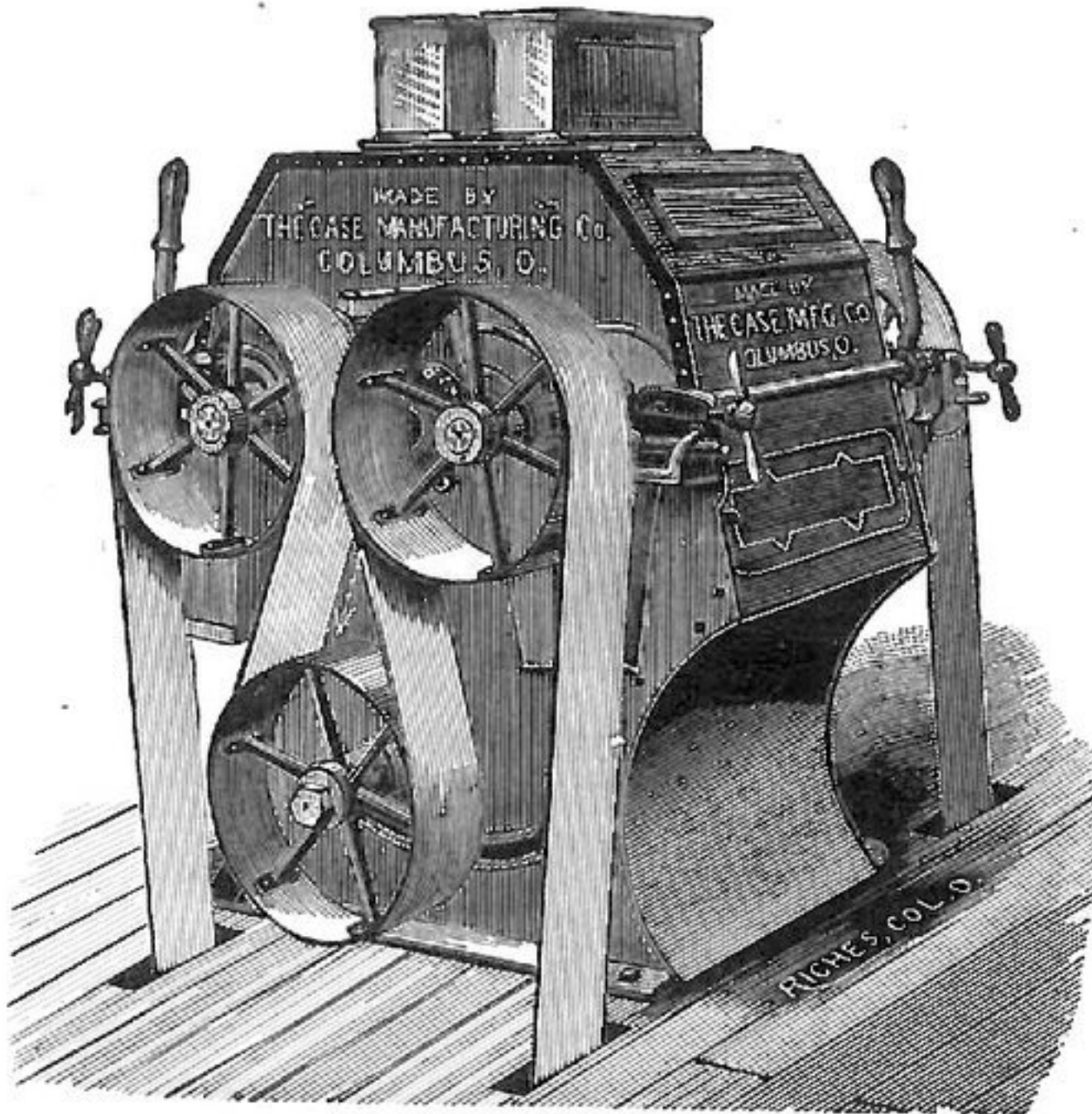
Our Engines are largely used in Burr and Roller Mills, both as the Sole Power, and as a Relay to Deficient Water Power. Especially Adapted to Coupling Direct to the Jack-Shafts, or to Special Machinery.

Send for Illustrated Circular and Reference List, and State the Horse Power Required.

OUR PRICES ARE MODERATE.

THE WESTINGHOUSE MACHINE CO
PITTSBURGH, PA.

Address if More Convenient } 94 Liberty Street, New York.
our Following Branch Offices: } 14 S. Canal Street, Chicago.
401 Elm Street, Dallas, Texas.

**"BISMARCK."**

THE CASE MACHINERY

Read the "Trade Notes" and you will see that our sales are double those of any other firm. This can be due to no other cause than the fact that we are making the BEST MACHINES and selling for the Least Money. Write for prices on the

CASE BISMARCK ROLL,
CASE DOUBLE PURIFIER,
CASE IMPROVED CENTRIFUGAL,
CASE BREAK MACHINES,

AND GENERAL MILL MACHINERY. ADDRESS,

CASE MANFG. CO., COLUMBUS, OHIO.

HEAD LININGS AND COILED BARREL HOOPS.

Our Celebrated Patent Head Linings are straight Rounded on their upper edge nail on barrel. They will freely through the square are packed. We can furnish from twelve to seventy-two GOOD Head Lining can



Round Edge Bent Barrel grained from end to end, and crimped or bent ready to not mold, as the air circulates bundles of 250 in which they them any desired length, inches, and as cheap as any be sold.

CAN FILL ALL ORDERS AT SIGHT.

REED & SILL COOPERAGE CO.,

DETROIT, MICHIGAN.

WIRE BOLTING CLOTH—STEEL, BRASS AND TINNED



A full line constantly on hand

ESTABLISHED 1844.
 Exclusive Manufacturers of the
"ACME"
 STEEL TEMPERED

Battery & Bolting Wire Cloth.

Also Manufacturers of
 Bran Duster Cloth, Plated Wire Mill Screen Cloth
 Smut Cloth, Brass and Copper Wire Cloth.

Send for samples and price lists.

Brooklyn Wire Cloth Works, NO. 107 JOHN STREET, New York.

RE-GRINDING AND RE-CORRUGATING ROLLS!

We have recently provided ourselves with special machines for this purpose, and are prepared to execute all orders promptly.

SEND IN YOUR DULL ROLLS.

THE BRADFORD MILL CO.

CONTRACTORS AND GENERAL MILL FURNISHERS.

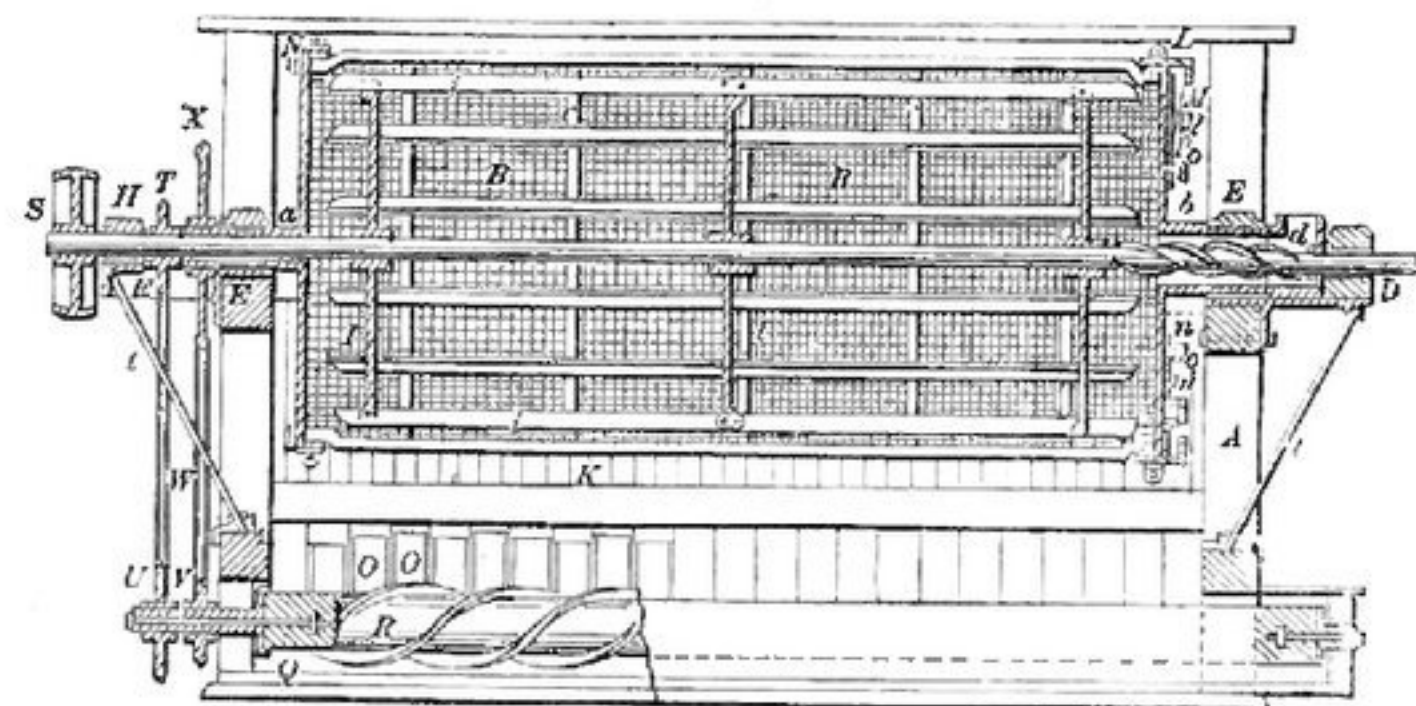
Eighth and Evans Sts., - Cincinnati, Ohio.

JOHN J. WALTERHOUSE,

PRACTICAL MILLWRIGHT, DRAUGHTSMAN AND

Contractor for the Erection of Flouring and Grist Mills

Plans, Estimates and Specifications Furnished when Desired.



PATENTEE OF
**WALTERHOUSE'S
 CENTRIFUGAL REEL.**

ROLLER MILLS A SPECIALTY.

GENERAL AGENT FOR STEVENS ROLLS AND GENERAL MILL MACHINERY.

VINCENNES, INDIANA.

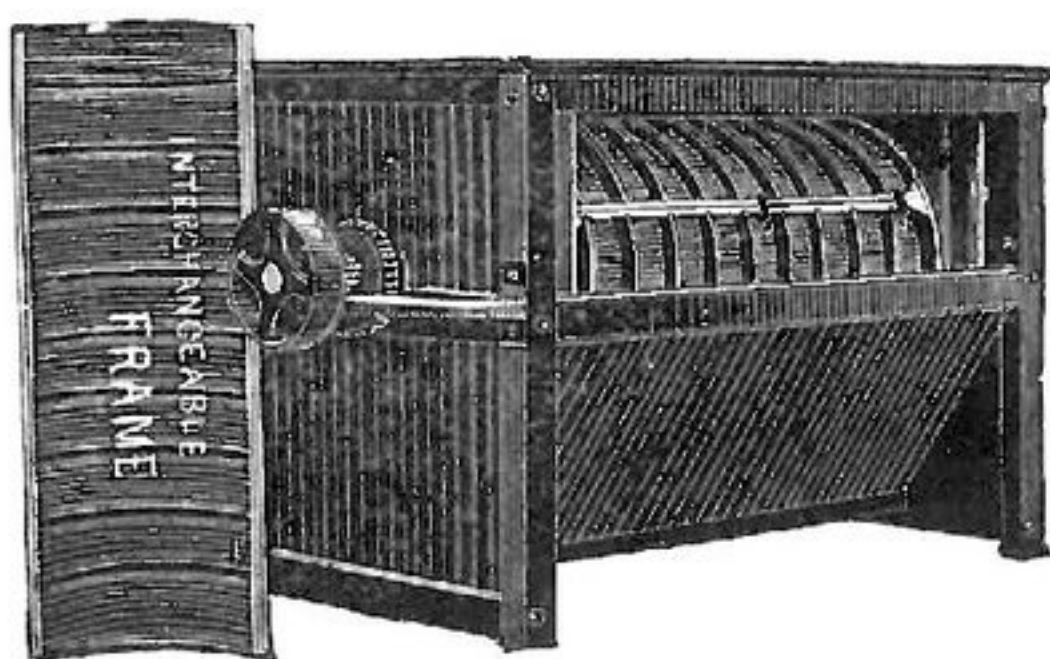
ODELL ROLLER MILLS

ARE MADE ONLY BY
STILWELL & BIERCE MFG. CO., DAYTON, O.

EXCELSIOR CENTRIFUGAL FLOUR BOLTS

FRANK ANDREE'S PATENTS, awarded Blue Ribbon and a Diploma of Merit at St. Louis Fair, Oct. 5, 1882.

Crowned With Success!



Our No. 1 Stationary Double Reel!

Our No. 2 Stationary Single Reel!

Our No. 3 Rotary Single Reel!

Our No. 4 Rotary Double Reel!

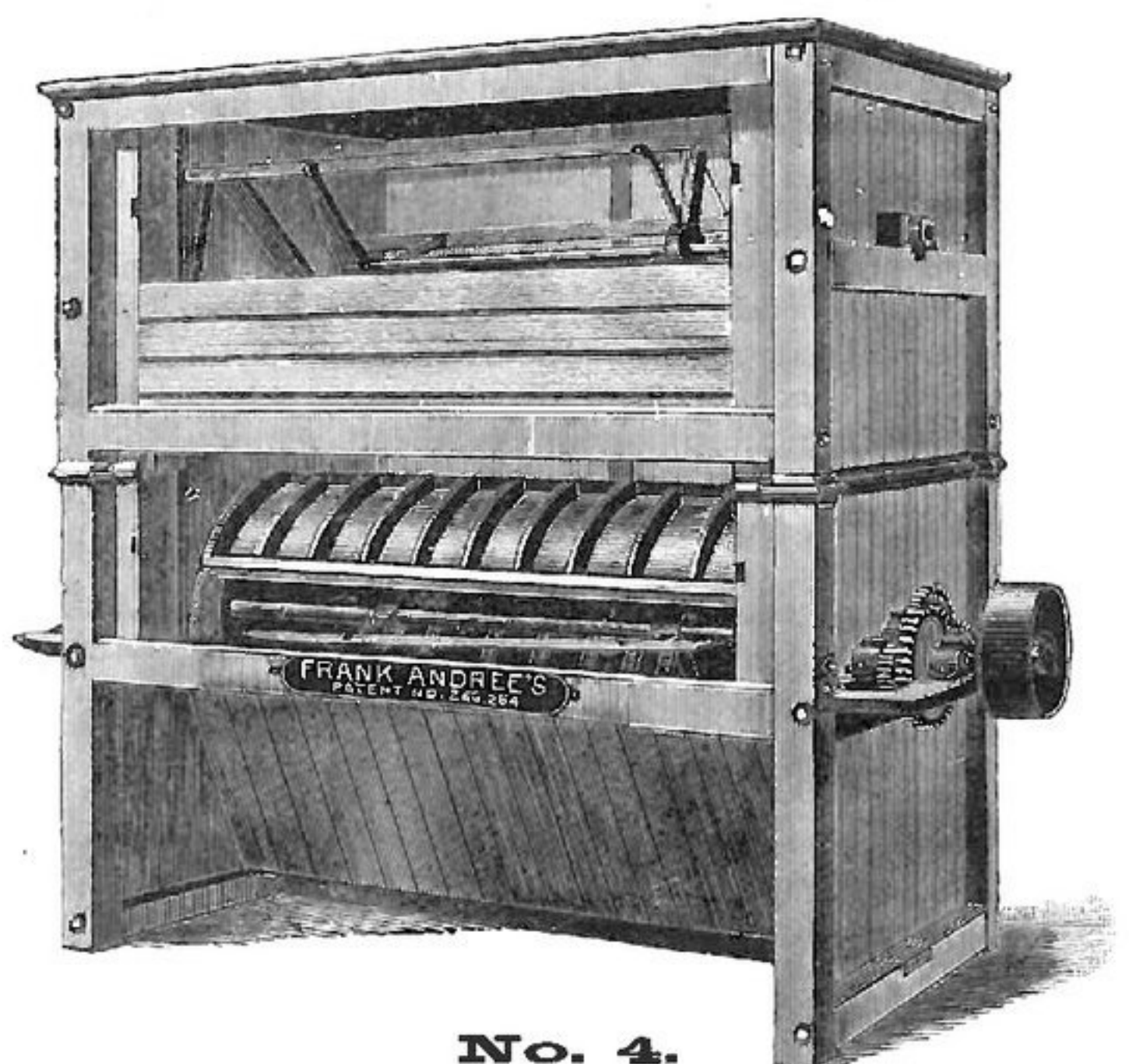
Our Interchangeable Bolting Frames!

The only complete system of Centrifugal Flour Bolting Reels in America. The merits of simplicity, of quality, of quantity, of durability, of light running, and the entire practicability of our Reels has been demonstrated publicly and privately beyond dispute

REFERENCE GIVEN! SATISFACTION GUARANTEED!

Send For Catalogue and Price List.

KASTLER BROS., Sole Agents of United States,
OFFICE: No. 330 Division Street, **CHICAGO, ILL.**



No. 4.

HAS BEEN AWARDED
FIRST AND ONLY PREMIUM
AT THE
Millers' International Exhibition.



Office of THE MILLING WORLD.
Buffalo, N. Y., April 16, 1884.

Commenting on the position of the markets the Produce Exchange Reporter, in its last issue, says: "These violent changes in market values are very hurtful to trade. They cause not only a suspension of the export trade, but millers throughout the country are compelled to suspend business and farmers all over the winter wheat States very generally have refused to sell at prices to correspond with those current on the coast. We regard these low sales for May and June delivery as fraught with great danger, and we fail to see anything in the situation to warrant them. The position of Western millers is certainly a very unhappy one, wheat with them relatively at 8@10c per bushel higher than on the coast, and flour selling at 30@50c per barrel lower by city millers than they can place it here. Verily the times are out of joint, at least with millers, and we are unable to give an opinion in regard to its duration. One thing is certain that millers at the West cannot long continue to mill wheat with the present margin against them, and the demoralized condition of the wheat market will speedily restrict the movement at most primary markets, so that we shall not have our usual April trade with the winter wheat states. There is really very little prime wheat on the coast, and at the current low figures we cannot look for liberal receipts of winter. From the spring wheat states our receipts are likely to increase, as heavy purchases were made for export on the upper lakes the latter part of March, but the receipts of winter promises to be moderate.

"Western men are greatly disappointed at the decline and inactivity in the market, and are disposed to charge commercial editors with making false statements in regard to the crop, thus showing that they do not carefully post themselves and learn the true cause of the decline and absence of our usual export demand. The real reason for the decline and inertia here is that Western Europe has been able to obtain ample supplies from other grain producing countries, and on better terms than they could here, and instead of exporting thirteen and a half million bushels from this coast in February, March and April as we did last year, the aggregate will be fifty per cent. less. The inferior character of our wheat has been a great hindrance to business.

"The secretary of the London Corn Exchange alludes to the stock of wheat in the granaries on that coast as being 454,000 quarters in excess of the corresponding time last year, as a large aggregate, but the falling off in our exports from this coast in March for English and French ports alone exceeds this aggregate, and this is now being felt. The British imports since the 1st of September show a continued falling off, and by the 1st of May their stocks will be reduced to about what they were a year ago, and will consist very largely of ordinary and medium qualities, embracing very little good red winter, but chiefly made up of ordinary to fair white. Of the floating bulk not above half the quantity will reach them until after the 15th of June. Their available supplies are now so liberal that they are quite indifferent about the future, and the promise of their growing crop is so satisfactory, that they have no cause for anxiety. We have steadily depleted our stock, and have very little left that is really desirable. Our city millers as a rule have purchased much of their wheat south of here, where they have some sound left, but prices there are high compared with this market, and are relatively higher than flour, so that the situation is not inviting to the miller or exporter."

This may be regarded as a pretty fair statement of the present position, and there is certainly nothing immediately apparent to influence a change for the better.

The flour buyers, says the Commercial Bulletin, who have held off because they thought the advance in wheat could not be maintained have been

partially justified by the developments. The sharp break in wheat has intensified the dullness prevailing in the flour market, and business is reduced to the absolute necessities of buyers; no one thinks of stocking up any. Values are very irregular, with a decided downward tendency. It is difficult in the present unsettled form to give quotations, but it is safe to say that no line selling could go on without a very material cut in prices. It is also safe to say that the average holder is not willing to make this cut. This is the idea that most holders are working on: "Wheat may go lower than it has yet gone, but it cannot go much lower, and we don't believe that it will go as low as it did a week ago; anyhow, we will take our chances at these low prices, and those of us who don't take fright and sell out now will probably be none the worse off for waiting." However there are some very weak spots to be found in the market, and buyers get bargains by shopping about for them. Rye flour is quiet but steady. Corn goods are feeling the decline in corn; bag meal is lower. Mill feed is quiet and steady.

FOREIGN EXCHANGE.

Dull but steady. In spite of the low rate of interest in London, there is still a profit in shipping gold, and the total sent out last week, according to official figures, reached \$4,174,029, most of which went to London, but considerable sums to Paris and Havana. The supply of bills continues limited, and bankers are somewhat discriminating in their purchases. The posted rates are 4.88½ for 60 days' and 4.90½ for demand. The actual rates were: At 60 days' sight, 4.87¾@4.88; demand, 4.85¾@4.90; cables, 4.90½@4.90¾; commercial, 4.86½@4.86¾. Continental exchange quiet; francs, 5.16½@5.16½, and 5.14¾@5.13¾; Reichsmarks, 95½@95½, and 95¾@95¾; guilders, 40¼ and 40¾. The closing posted rates are as follows:

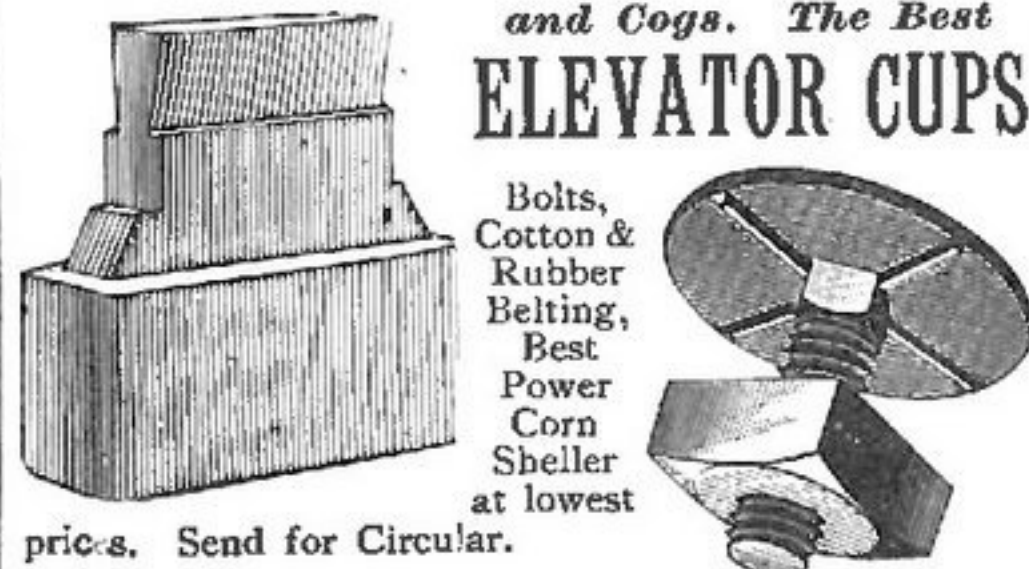
	60 days.	30 days.
London	4 88½	4 90½
Paris francs	5 15½	5 13½
Geneva	5 15	5 12½
Berlin, reichsmarks	95½	96½
Amsterdam, guilders	40¾	40¾

BUFFALO MARKETS.

FLOUR—City ground clear Duluth spring \$6.25@6.50; straight Duluth spring, \$6.00@6.25; amber, \$5.75@6.00; white winter, \$5.75@6.00; new process, \$6.75@7.00; Graham flour, \$5.50@5.75. Western straight Minnesota bakers, \$6.25@6.75; clear do, \$5.50@6.00; white winter, \$6.00@6.25; new process, \$7.00@7.50; low grade flour, \$3.75@4.00. **CORNMEAL**—Market steady, with a fair demand. Coarse, \$1.15; fine, \$1.20 per cwt. **RYE FLOUR**—In fair demand at \$3.75@4.25. **OATMEAL**—Ingersoll, \$5.75; Bannerman's granulated, \$6.00; Schumacher's Akron, \$6.25 per bbl. **BUCKWHEAT FLOUR**—Demand fair at \$3.50 per cwt. **WHEAT**—Unsettled. Small sales of No. 1 hard Pacific were made early at \$1.08½, closing nominally at \$1.08. Red and white winter quotable at \$1.08. No offers or bids at the Call Board. **CORN**—In good demand. Sales ten car-loads certificate No. 2 at 54c, five do high mixed at 54c, five do choice sample at 53½c bid June, 52½c bid July. **OATS**—Mixed Western 36½@37c, No. 2 white 40c, sample do 39@39½c, State, from wagons, 43@44c. **BARLEY**—No. 1 Canadian 93@95c; No. 2 do 85@90c; No. 3 do 73@75c; six-rowed State 73@78c. **RYE**—No. 2 Western, 68@69c.

Ten years ago neither India, Australia, nor the Argentine Republic had sent a cargo of wheat to Europe. This year the amount of exportable wheat from India is estimated at 50,000,000 bushels, from Australia 25,000,000, and from the Argentine Republic at 10,000,000, a total of 85,000,000 bushels. In each of these countries the opening up of the country by railroads is stimulating wheat production in a surprising manner.

The Best Conveyor Flights and Cogs. The Best ELEVATOR CUPS



A. H. FAIRCHILD & SON,
North Bloomfield, Ont. Co., N. Y.

MILLS Parties desiring to sell, buy, or lease mill property should not fail to write us. Our List covers various sections of country, and we have mills at all prices, and can offer some decided Bargains in the West.
GILLSON, BENJAMIN & CO.,
97 Metropolitan Block, CHICAGO, and cor. 3d Ave. and 3d Street, MINNEAPOLIS.

DUFOUR & CO.'S CELEBRATED BOLTING CLOTH.

JOHN C. HIGGINS & SON,
Manufacturers and Dressers of
MILL PICKS.
163 KINZIE ST., CHICAGO.



GOLD MEDAL—SPECIAL, 1ST ORDER OF MERIT.



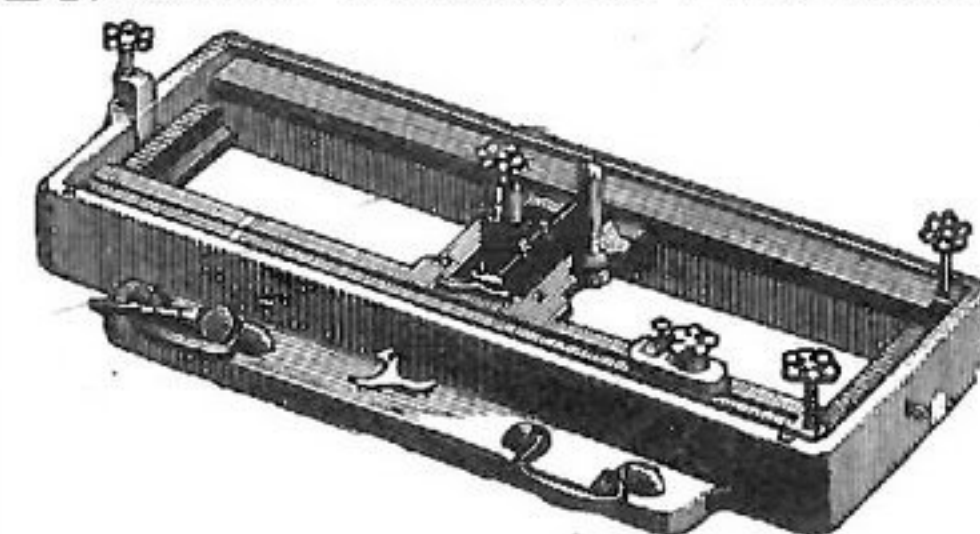
Send for Circular and Price List.

Picks will be sent on 30 or 60 days' trial to any responsible Miller in the United States or Canada, and if not superior in every respect to any other pick made in this or any other country, there will be no charge, and I will pay all express charges to and from Chicago. All my picks are made of a special steel, which is manufactured expressly for me at Sheffield, England. My customers can thus be assured of a good article, and share with me the profits of direct importation. References furnished from every State and Territory in the United States and Canada.

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QUEEN CITY PRINTING INK CO.
CINCINNATI, O.

TEETOR'S QUICK ADJUSTABLE

Diamond Millstone Dressers.



No screw feed. A new invention. Automatic rod feed. The only perfect, practical feed ever invented for a millstone dresser. A revolution. No ratchet wheel, springs, pauls and levers to contend with. Can cut over 1,000 cuts per inch right or left, reversed with the tip of one finger, while in motion. Feed can instantly be regulated to cut fine or coarse with one hand while the carriage is operated with the other, by the use of this rod feed can push the cross head right or left for quick operation. Self reversing when pushed to either side of carriage. A machine of special merits, is specially adapted for deep facing, as the feed can instantly be regulated to protect the diamond point, therefore need not raise the diamond on account of a slight raise. No extra attachment required to furrow. No change to be made on the cross head. All regulations or adjustments are made without the use of a tool to crack, face or furrow right or left hand burrs. Is warranted as represented, and is specially guaranteed to be more easily operated and quickly adjusted than any of its class, is convenient to set over spindles as machines are ample wide. Also a new improved patent diamond holder, the only perfect one. Other good improvements not mentioned. Sold on trial to responsible parties. Prices reasonable. Send for circular giving full description.
C. A. BERTSCH,
Sole Manufacturer, Cambridge City, Ind.

THE "SALEM" ELEVATOR BUCKET.

SHOVEL EDGE
Seamless Rounded Corners
CURVED HEEL.



RUNS EASY
STRONG & DURABLE
EMPTIES CLEAN.

W. J. CLARK & CO., MANUFACTURERS, SALEM, OHIO.
New York Office and Salesroom, No. 9 Cliff Street.

THE BEST AND CHEAPEST COB CRUSHER IN THE WORLD.

Steel Being Used in its Construction.

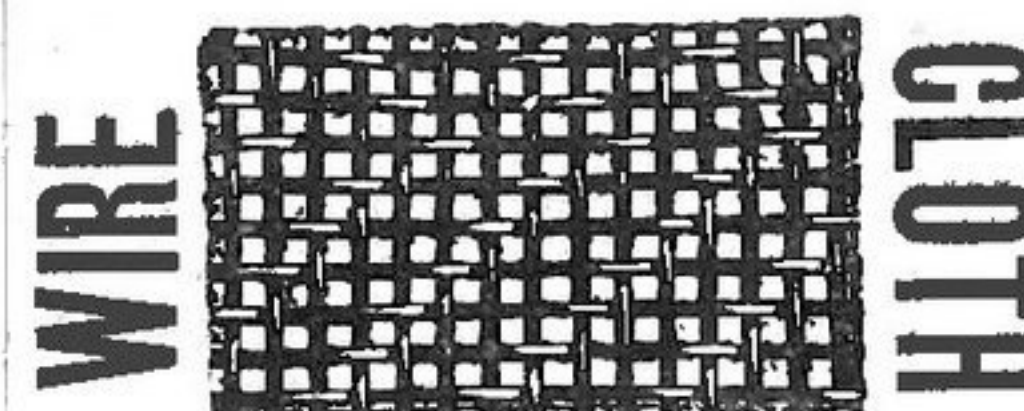
PRICE, 30.00. **RIGHT-HAND MILL.**
CAPACITY 75 BUSH. PER HOUR.

Thousands of these Crushers are now in use, and giving entire satisfaction.

Please Send for Circulars.

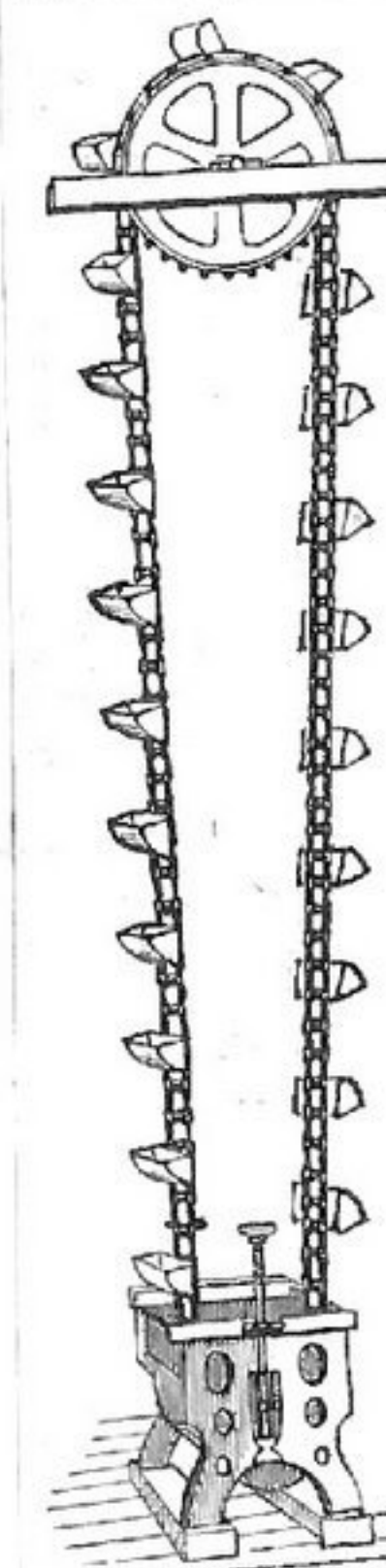
R. C. McCULLEY, LANCASTER, PENN.

FIRST AND ONLY PREMIUM
OVER ALL COMPETITORS!
PURCHASE ONLY
FROM RELIABLE DEALERS.



FOR FLOURING MILLS. Made expressly for Steel or Plated Wire Cloth, even mesh, and superior in every respect to any cloth in the market. Also heavy steel, tempered Wire Bolting and Bran Duster Cloths.

Manufactured by
E. T. BARNUM Wire & Iron Wks., Detroit, Mich



ANTI-FRICTION Roller Detachable CHAIN BELTING

FOR
**ELEVATORS
CONVEYORS,
Carriers, Etc.**
AND FOR
DRIVING PURPOSES.
A Superior Chain Belting

Manufactured and Sold by
Lechner Mfg. Co.
COLUMBUS, OHIO.

Send for Catalogues and Price List.

Manufacturer and Dresser of

Toledo Mill Picks and Stone Tool Mfg. Co.

Mill Picks.

Made of the very best double-refined English cast steel. All work guaranteed. For terms and warranty, address **GEO. W. HEARTLEY, No. 297 St. Clair Street, Toledo, O.** Send for Circular.

N. B.—All Mill Picks ground and ready for use (both old and new) before leaving the shop. No time and money lost grinding rough and newly dressed Picks. All come to hand ready for use.

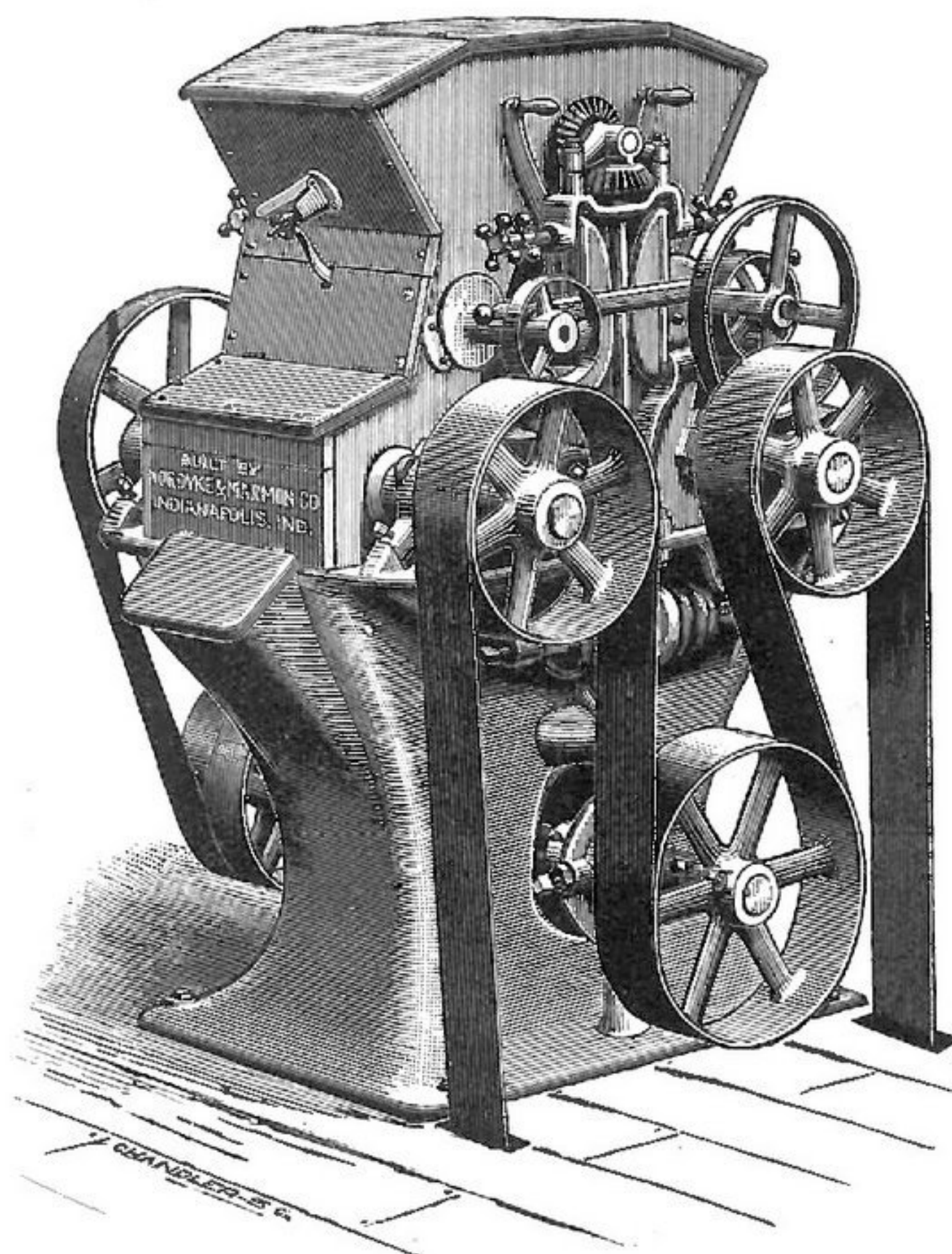
ALSO MANUFACTURERS OF
**SHAFTING, PULLEYS, HANGERS, COUPLING
AND MACHINE JOBBING.**

NORDYKE & MARMON CO., INDIANAPOLIS, IND.

Builders from the Raw Material of

ROLLER MILLS, CENTRIFUGAL REELS, FLOUR BOLTS.

WE ARE THE SOLE OWNERS FOR THE UNITED STATES, OF ALL THE PATENTS UPON THIS ROLLER MILL.



This Is the Only Roller Mill Made Having All the Essentials Needed In Successful Milling.

500 BARREL MILL IN MISSOURI.

Read what an Old Miller who has Thirty-Four Pairs of these Rolls in Constant Use, Says:

MESSRS. NORDYKE & MARMON CO., INDIANAPOLIS, IND.

Gentlemen: In regard to the workings of our new mill erected by you, will say it is working fully up to and beyond our expectations. Our average work is fully 38 per cent. over your guarantee. Since starting our mill last July we have had no complaint of our flour from any market where sold. It gives universal satisfaction, and we have it scattered on the trade from Chicago to Galveston, Texas. Our yields are all that are attainable. We have tested it on both Spring and Winter wheats with satisfactory results on both varieties. Since the mill was turned over to us we have not changed a spout or a foot of cloth, nor have we found it required to make any changes. We have run as long as six days and nights without shutting steam off the engine, not having a "choke" or a belt to come off. The mill is entirely satisfactory to us, and for a fine job of workmanship, milling skill and perfection of system, we doubt if it is surpassed in the United States to-day. It is certainly a grand monument to the ability and skill of Col. C. A. Winn, your Milling Engineer and Designer. You may point to this mill with pride and say to competitors, "You may try to equal, but you will never beat it." Wishing you the success that honorable dealing deserves, I am,

OFFICE OF DAVIS & FAUCETT MILLING CO.,
ST. JOSEPH, MO., Nov. 28th, 1883.

Yours, etc., R. H. FAUCETT, PRES.

500 BARREL MILL IN ILLINOIS.

MESSRS. NORDYKE & MARMON CO., INDIANAPOLIS, IND.

Gents: We started up our mill in June last year, and it gives us pleasure to say that your Roller Mills are doing splendid work and give us no trouble. Your milling program required no changes, and concerning yields, we get all the flour from the offals, and we sell our best grades in the principal markets of the United States at the highest prices offered for any flour. All the machinery made by you is first-class, and we would not know where to purchase as good.

OFFICE OF DAVID SUPPGER & CO.,
HIGHLAND, ILL., Jan. 10, 1884.

Yours respectfully, DAVID SUPPGER & CO.

125 BARREL MILL IN INDIANA.

NORDYKE & MARMON CO., INDIANAPOLIS, IND.

Gentlemen: The 125 barrel All Roller mill you built us has been running all summer, and does its work perfectly. Before contracting with you for this machinery we visited many Roller Mills throughout the West and Northwest, built by the different leading mill-furnishers, and from all we could see, those built by you seemed to be giving the best satisfaction, and this is why we bought our machinery of you. Our mill comes fully up to your guarantees, and the capacity runs over your guarantees. The bran and offal is practically free from flour, and our patent and bakers' flour compares favorably with any we have seen elsewhere. I don't think anyone can beat us. Your Roller Machines are the best we have seen; they run cool, and the interior does not sweat, and cause doughing of the flour. Judging from our success, we would recommend other millers to place their orders with you.

LAPEL, MADISON COUNTY, IND., Jan. 10, 1884.

Yours truly, J. T. FORD.

Letters on file in our office from a large number of small roller millers giving as favorable reports as above. A portion will be published as occasion demands.

SPECIAL MILLING DEPARTMENT! Mill Builders & Contractors--Guarantee Results

Motive Power and Entire Equipment of a Modern Mill Furnished under one Contract.

GREAT TRIUMPH IN INVENTION

The Simplicity so long sought after in Roller Mills attained at last.

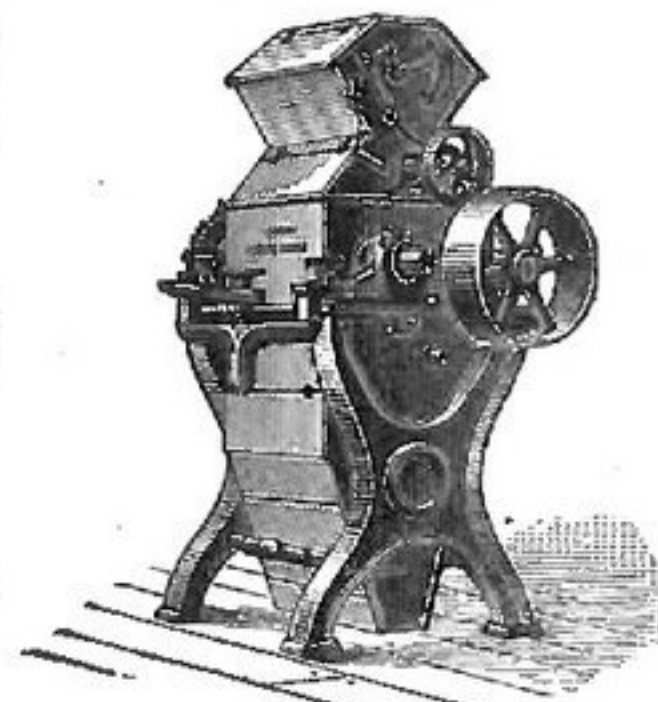
ONE, TWO, OR FOUR BREAKS IN A SINGLE FRAME

SIZES OF ROLLS 9x18 and 7x14 INCHES.

NO CROSS BELTS. NO FRICTION. NO LOSS OF POWER.

Reduction Rolls, Bolting Cloth, Purifiers, Middlings Mills and Bolting Chests. General Mill Furnishing Supplies.

W. H. BARBER & CO., SOLE MANUFACTURERS, ALLENTOWN, PA.



A 6x12 ROLL.

We are making the neatest and most substantial 6x12 Two and Four Roller Mills, smooth and corrugated, ever put on the market. Millers wanting small rolls (as well as large), will find ours well made, neat and complete. Every pair has our Patent Automatic Feed. The price is low down.

ADDRESS,

Case Mfg. Co., Columbus, Ohio.

ESTABLISHED 1853.

Special Discounts to Cash Customers

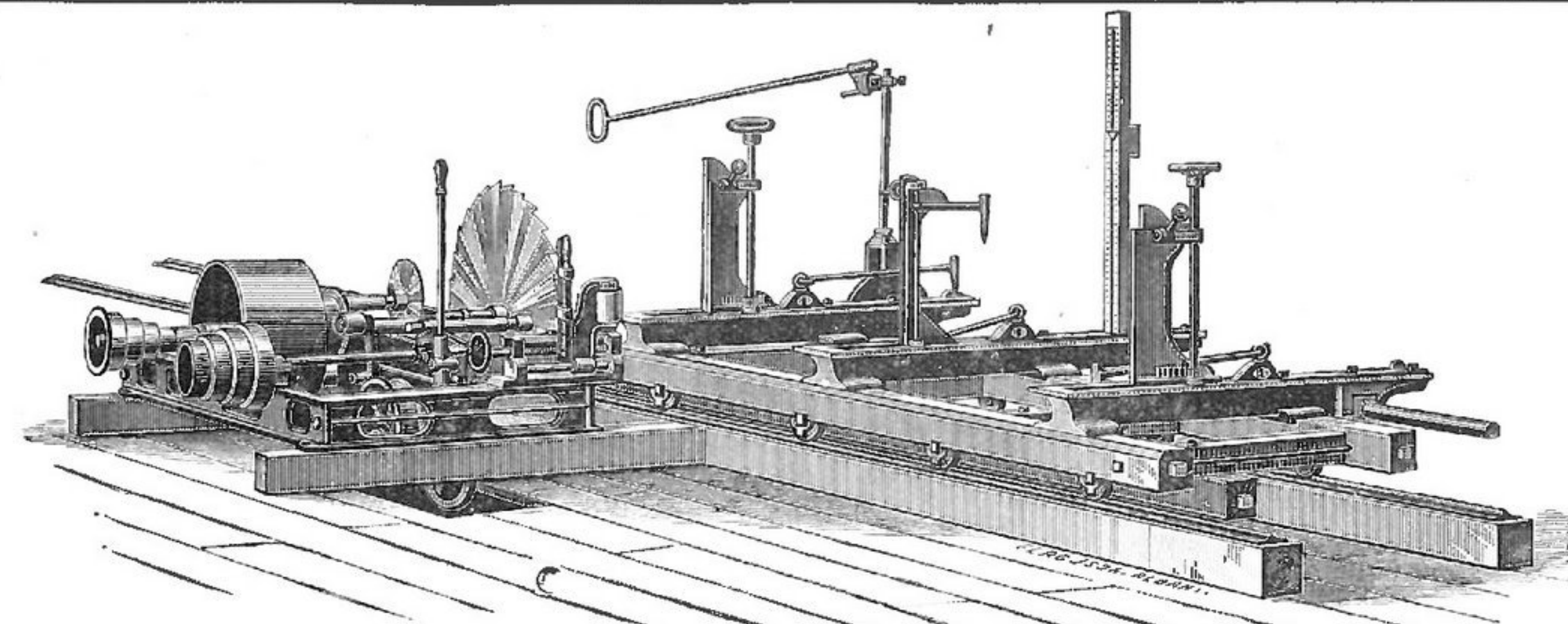
THIRTY YEARS' EXPERIMENT AND IMPROVEMENT HAS CULMINATED IN THE

Best Circular Saw Mill in the World.

GEARS BORED AND FITTED.

Turbine Water Wheels, Shafting, Pulleys, Hangers, Etc.

SEND FOR OUR NEW CATALOGUE. IT CONTAINS MUCH INFORMATION OF VALUE TO YOU.



M^CCARTY & CO., SANDY HILL, N. Y., U. S. A.

KEYSTONE CENTRIFUGAL REEL

Drag Brush Feed, Tightest Heads, Best Results. Cheapest and Best on the Market. Adapted to all Kinds of Milling.

MR. C. K. BULLOCK, PHILADELPHIA, PENN.

Dear Sir: The No. 3 "Keystone Centrifugal Reel" I bought of you works satisfactorily. I think it is one of the best machines I ever put into my mill and would not do without it if it cost double the amount of your price list.

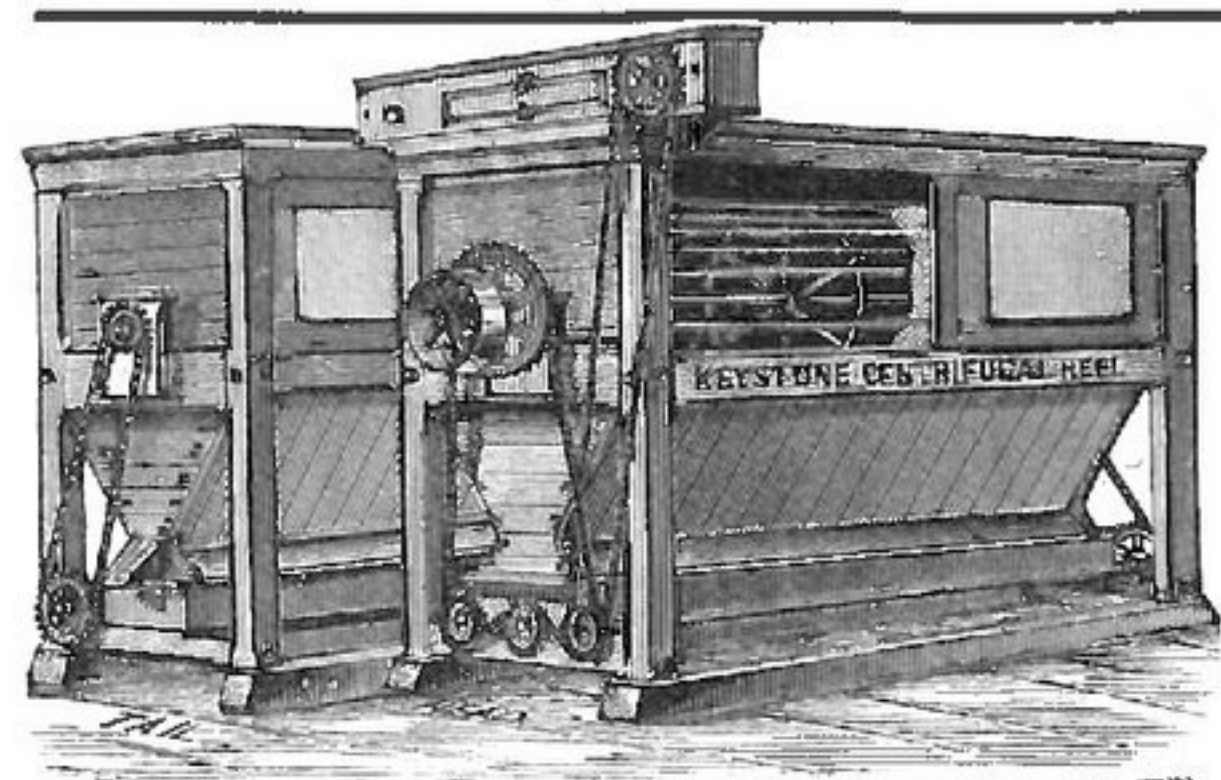
Yours truly,

YERKES, PA., Nov. 22d, 1883.

JACOB H. LANDIS.

The New Drag Feed Thoroughly Protects the Silk. Sent on Trial to any Responsible Miller. For Circulars, Prices, and Full Particulars, Address the Manufacturer,

C. K. BULLOCK, 1357, 1359, 1361 RIDGE AVE., PHILADELPHIA, PENN.



DIRECT IMPORTATION.

BOLTING CLOTH, entering as it does so largely into successful flour making, has engaged our attention to a large extent for nearly

FIFTY YEARS.

OUR EXPERIENCE therefore enables us to determine what makes are able to meet the requirements of the miller.

WE HANDLE none but the genuine NOYE & DUFOUR brands, and FULLY GUARANTEE both. Prices Greatly Reduced on both.

CORRESPONDENCE SOLICITED.

Cloths made up in a superior manner on the shortest possible notice, by patented machinery, giving a strength and durability not attainable by any other method.

ONLY THE BEST OF MATERIAL USED FOR THIS PURPOSE.


THE JOHN T. NOYE MFG. CO.,

BUFFALO, N. Y., U. S. A.

BEWARE OF SECOND-HAND STEVENS' ROLLER MILLS OFFERED BY ONE OF OUR COMPETITORS. THEY WERE MADE IN 1881 AND HAVE SINCE PASSED THROUGH A FIRE.

SCHINDLER-ESCHER, ZÜRICH, SWITZERLAND

UNRIVALED.

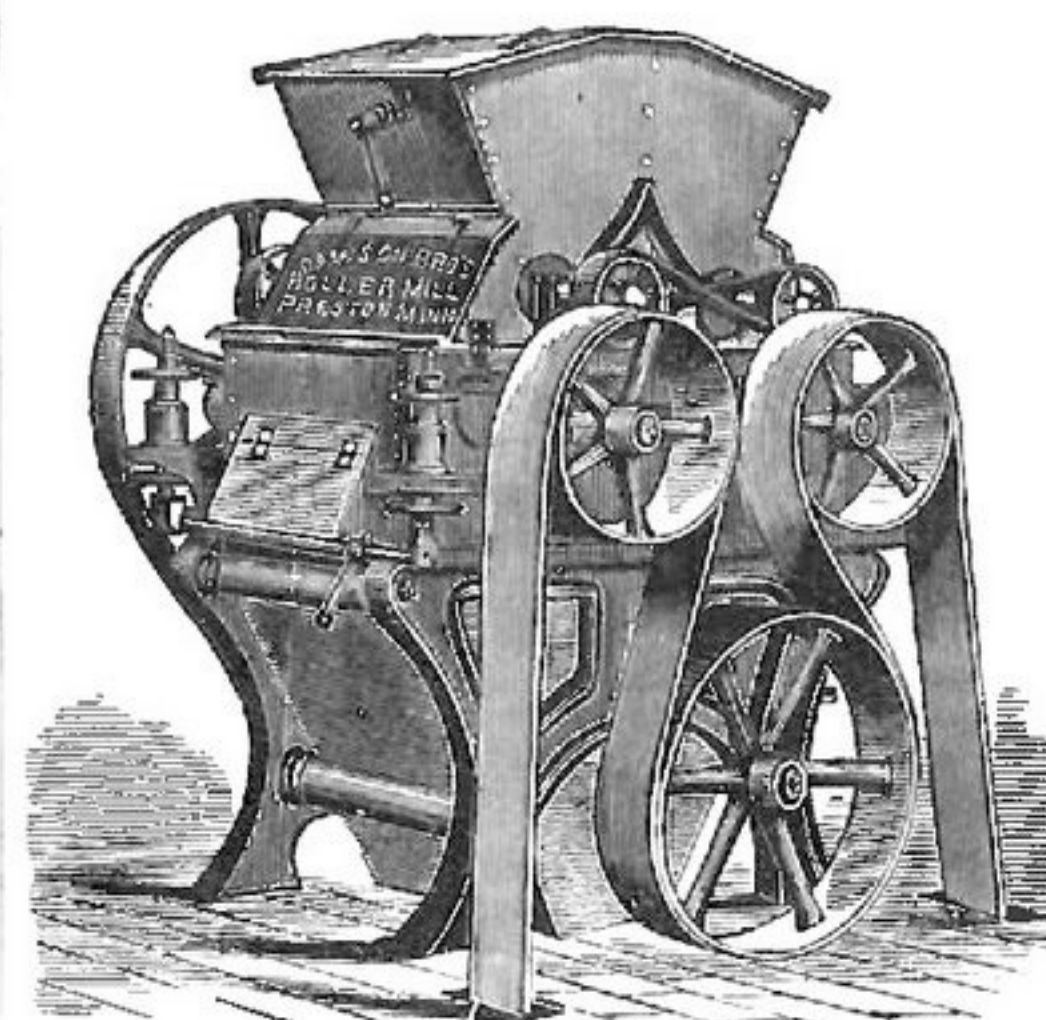


SCHINDLER
BOLTING CLOTH
AND
GRIT GAUZE.

GRAND DIPLOMA OF HONOR. AUSTRIA.
FIRST ORDER OF MERIT. AUSTRALIA.

Dawson Bros. Granulating Roller Mill.

IN DOUBLE OR SINGLE FRAMES.



The "Dawson" Corrugation is the *only* one which will make *all* the *breaks*, being equally as good on *Last* reduction as on *First*. The only mills made with non-friction metal bearings. Licensed under patents No. 217,513; re-issue 10,091 to George S. Cranson, and No. 200,669 to James Dawson. *Most popular Non-Cutting Rolls in use.* Have none of the bad mashing qualities of other non-cutting rolls. Conceded by all to make *more middlings and less break flour, and broader and cleaner bran*, than any roll made. The "New Idea," a roller mill and scalper combined, especially suited for small custom mills, now made by us, is a grand success. We are prepared to contract for building or remodeling mills on the *complete* or *combined* roller system. Having built several large mills in this vicinity, where we can show our roller mills in full operation, we shall be pleased to have calls from any one needing mill machinery and roller mills. Plans and Estimates furnished.

Dawson Bros.,

Manufacturers of the Celebrated Cranson-Dawson Roller Mill, Mill Builders and Furnishers,
WILMINGTON, DELAWARE.



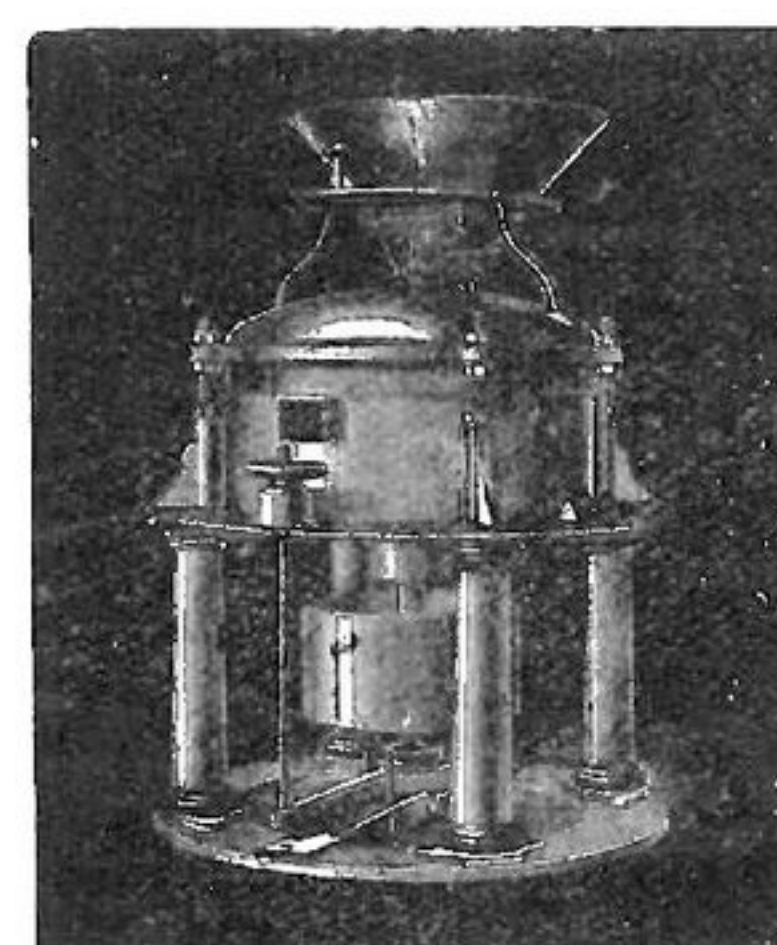
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DEAL'S CALIFORNIA MAGNETIC
BRUSH SMUTTER
AND
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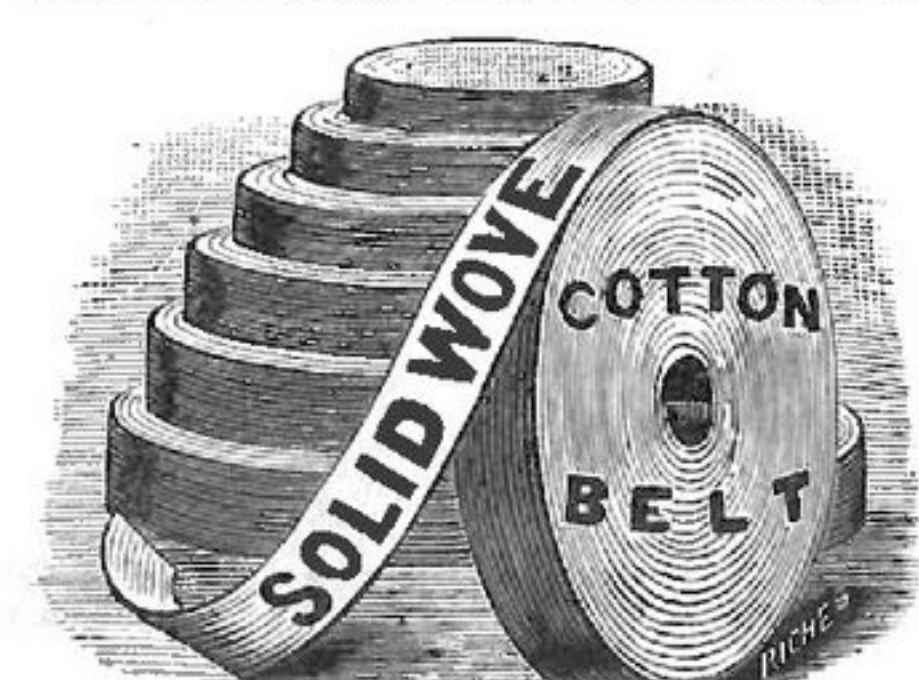
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